

**Procedure Manual
for
Implementation of GASB 34
by
Indiana Local Public Agencies**

**October 2004
SP-2-2004**

written by

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and
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Indiana Local Transportation Assistance Program
Governmental Accounting Standards Board Statement No. 34
General Infrastructure Retroactive Reporting Implementation
Assistance Manual

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Introduction

The Governmental Accounting Standards Board Statement No. 34, *Basic Financial Statements – and Management’s Discussion and Analysis – for State and Local Governments* has been in effect since mid 1999. The comments put forth in the early press releases and news articles referred to GASB Statement No. 34 as a dramatic shift in the way governments present financial information to the public.

This assistance manual is meant to assist participating governments with certain aspects of the general infrastructure retroactive reporting implementation issues in light of the Governmental Accounting Standards Board Statement No. 34. This assistance manual may prove to be of assistance in prospective reporting as well.

General infrastructure assets per the GASB are comprised of roads, bridges, tunnels, drainage systems, water and sewer systems, dams, and lighting systems. If significant, a government should also include sidewalks, traffic signals, and improved alleys in their reporting. Also to be included are a government’s rights-of-way.

The capital asset and general infrastructure provisions of GASB Statement No. 34 have two major components – retroactive reporting of general infrastructure and prospective reporting of new infrastructure acquired or constructed in the future.

Retroactive reporting of existing general infrastructure must include all assets acquired or significantly reconstructed by a government since 1980. Inclusion of all general infrastructure regardless of date of acquisition or construction is encouraged.

Prospective reporting of all general infrastructure acquired or constructed by a government is required at implementation of the new reporting model and is to be reported using actual historical costs.

It should be noted that all governments regardless of size (population, revenue, etc.) must comply with the prospective reporting requirements related to general infrastructure assets. It should also be noted that the retroactive reporting of general infrastructure is optional for Phase III governments with revenue under \$10 million. While this reporting is optional, it is encouraged by the GASB.

General Background

GASB Statement No. 34 requires that governments include general infrastructure in their financial reporting to be in accordance with generally accepted accounting principles (GAAP). This reporting of general infrastructure is both retroactive and prospective.

Per GASB Statement No. 34:

- Phase I governments – with total annual revenues of \$100 million or more – should apply the requirements of this Statement in financial statements for periods beginning after June 15, 2001.
- Phase II governments – with total annual revenues of \$10 million or more but less than \$100 million – should apply the requirements of this Statement in financial statements for periods beginning after June 15, 2002.
- Phase III governments – with total annual revenues of less than \$10 million – should apply the requirements of this Statement in financial statements for periods beginning after June 15, 2003 (i.e., with 2004 financial reports).

Per GASB Statement No. 34, “At the applicable general infrastructure transition date, Phase I and Phase II governments are required to capitalize and report major general infrastructure assets that were acquired (purchased, constructed, or donated) in fiscal years ending after June 30, 1980, or that received major renovations, restorations, or improvements during that period.” (capitalization of all major general infrastructure is encouraged which would include post-1980 and pre-1980 assets)

GASB Statement No. 34 encourages the capitalization of existing general infrastructure – meaning the retroactive reporting of existing general infrastructure at implementation of

the reporting model; however, governments have an optional additional four years to implement this retroactive reporting as follows:

- Phase I governments must implement the retroactive reporting of existing general infrastructure in financial statements for periods beginning after June 15, 2005 with earlier implementation encouraged.
- Phase II governments must implement the retroactive reporting of existing general infrastructure in financial statements for periods beginning after June 15, 2006 with earlier implementation encouraged.
- Phase III governments have the option of implementing the retroactive reporting of existing general infrastructure in financial statements for periods beginning after June 15, 2007 with earlier implementation encouraged.

Again, for Phase III governments, prospective reporting of general infrastructure is required at the date of implementation of GASB Statement No. 34 and, while the retroactive reporting of general infrastructure is optional, it is encouraged that governments comply with these provisions.

As stated, Phase I and Phase II governments have an additional/optional four years from their implementation of the reporting model to prepare their retroactive implementation of general infrastructure. They are encouraged to implement both the reporting model and the retroactive simultaneously by the GASB.

What Needs to Be Done – Task at Hand

Reference is made here to the Government Finance Officers Association publication, *Governmental Accounting, Auditing, and Financial Reporting Review (GAAFR Review)*, and the October 2001 edition (a copy is included in the appendix of this assistance manual). This document was written in the early days of GASB Statement No. 34 implementations. This article summarizes the retroactive reporting of general infrastructure to the answering of three questions:

- What assets do we have? (inventory)
- When did we acquire these assets? (aging)
- What was the historical cost of these assets? (costing)

While this is a sizeable task, it is one that can be accomplished by local governments in light of the inherent flexibilities of GASB Statement No. 34 which include:

- Options with inclusion and exclusion decisions

- Use of estimates in the aging and costing of assets
- Focus on major classes of general infrastructure (inclusion of all classes is encouraged but not required)
- Utilization of existing information, resources, and knowledgeable staff within a government

Governments are faced with establishing retroactive records for the existing general infrastructure assets. Most of these assets have never been reported on in the past.

Assistance Manual Summary

This manual is designed to assist governments in their estimation of the estimated historical cost of general infrastructure assets for financial reporting purposes including the calculation of annual depreciation, accumulated depreciation and net book value by:

- Providing a framework for the retroactive implementation of general infrastructure for financial reporting purposes
- Assisting implementation with the included general infrastructure worksheets
- Assisting inventory with the inclusion of specific road subsystems and/or functional classes
- Assisting inventory with specific units of measure
- Providing replacement cost estimates for various general infrastructure subsystems and/or functional classes and consistent units of measure as a starting point for the normal costing process
- Assisting the normal costing of general infrastructure (establishing estimated historical cost) with the included deflators in the appendices
- Further assisting the normal costing process by having the deflators inserted in the worksheets with a related look-up table (by year 1980 to present and by decade-average for pre-1980 deflators)
- Providing estimated useful life samples
- Providing formulas to calculate annual depreciation, accumulated depreciation, and net book value (included with worksheets)
- Other

As stated, this resource document also includes as appendices the following tools which are also converted so as to facilitate their use as a 'deflator' of the current replacement costs to estimated historical costs. These deflators are also entered to the worksheets as look-up tables as previously mentioned. Included are:

- Federal Highway Administration Price Trends (for use with transportation related assets)
- Consumer Price Index (CPI)* (for use with rights-of-way)

This manual seeks to address areas common to many retroactive implementations of general infrastructure reporting. This manual, through discussion of functional classes of general infrastructure and units of measure, will provide general assistance in this effort. In light of the capital asset and general infrastructure provisions of GASB Statement No. 34, though, governments must individually address the following:

- establish a capital asset policy that addresses capitalization threshold, delineates estimated useful lives of depreciable assets, and discusses calculation of depreciation as to method (e.g., straight-line), convention (e.g., full-year), and amount of salvage value if any
- prepare an inventory of general capital assets i.e., general land parcels, land improvements, buildings, vehicles, and machinery and equipment
- prepare an inventory of general infrastructure i.e., roads, bridges, tunnels, drainage systems, water and sewer systems, dams, lighting systems, etc.
- establish dates of acquisition or estimated dates of acquisition for general capital assets
- establish an allocation and establish dates of acquisition or estimated dates of acquisition for general infrastructure
- establish actual or estimated historical cost for general capital assets
- establish actual or estimated historical cost for general infrastructure
- derive estimated useful lives for all depreciable assets
- calculate depreciation for all depreciable capital assets as to annual depreciation, accumulated depreciation, and net book value
- establish an inventory of rights-of-way (to be added to land account)
- allocate inventory of rights-of-way and establish estimated or actual dates of acquisition (may differ from road age)
- establish actual or estimated historical cost or fair value at acquisition for all rights-of-way
- establish a construction-in-progress (CIP) account
- prospective reporting to include recognition of additions, improvements, and retirements and annual update of reports

*Use of the Consumer Price Index (CPI) in deflating a current fair value of land to an estimate of historical cost or fair value at acquisition should be considered and reviewed in light of the overall reasonableness of the resulting amounts. Further, the resulting estimated historical cost or fair value should be reviewed by the independent auditor for approval and concurrence.

Capital Asset Policy

GASB Statement No. 34 states that governments are required to disclose ...the policy for capitalizing assets and for estimating the useful lives of those assets (used to calculate depreciation expense). A common capitalization threshold includes only assets at or above a unit historical cost of \$5,000. Further, this assistance manual provides for estimated useful life resources in the appendices as delineated in the included GAAFR Review. Finally, the worksheets included are also meant to assist depreciation of general infrastructure utilizing a straight-line method, a full-year convention, and with recognition of no salvage value.

Improvements to buildings and general infrastructure must be significant for capitalization. Generally these improvements increase capacity or efficiency or extend the assets estimated useful life beyond the original expectation. While repairs and renovations should be reviewed for potential capitalization, most of these expenses often merely restore the asset to the original service potential but do not improve the asset.

Using This Assistance Manual

This assistance manual is meant to assist the retroactive implementation of the general infrastructure provisions of GASB Statement No. 34. It provides specific tools for that which governments have a common need (worksheets, networks/subsystems, units of measure, supportable replacement costs, deflators, depreciation formulas, etc.).

This manual provides for the following networks, subsystems, or functional classes as applicable:

- Roads (network)
 - Arterial urban (subsystems)
 - Collector rural
 - Collector urban
 - Local paved rural
 - Local paved urban
 - Local unpaved (gravel)
- Bridges
- Storm sewer systems
- Sidewalks
- Streetlights
- Traffic signals

Should one of the individual governments using this assistance manual have a significant class of general infrastructure not mentioned above, it is suggested that either IN LTAP or Government Fixed Asset Services, Inc. be contacted to discuss further.

Also, excluded from consideration are water and sewer system assets and other utility assets as general infrastructure because they are usually reported as enterprise funds and, under pre-GASB Statement No. 34 standards, are likely already being depreciated. Further, in most cases the balances have been audited for years.

As stated, all governments across the United States will be responsible for inventory, aging, costing, lifing and depreciating their capital assets including their general infrastructure assets in meeting the standards promulgated with GASB Statement No. 34. Further, rights-of-way will need to be reported on (at historical cost or fair value at time of donation if donated but not depreciated).

Inventories should be established utilizing consistent units of measure as indicated in this assistance manual. The replacement costs (current new construction costs) indicated in this assistance manual should be applied by unit of measure. These units of measure follow:

- Roads – square yard of pavement surface
- Bridges – square foot of bridge deck surface
- Storm sewer – per linear foot
- Sidewalks – per linear foot
- Streetlights – per light fixture (grouped by year of installation)
- Traffic signals – per intersection

If a government wants to use a different unit of measure or alter those indicated thus changing their individual calculations, either IN LTAP or Government Fixed Asset Services, Inc. should be contacted to discuss the matter further.

General Infrastructure Worksheets – Inventory and Aging, Costing, and Depreciation (section is followed with example)

Inventory and Aging

Note in the example that the *inventory* portion includes column A – Road Name; columns B and C – From and To; column D – Length; column E – Width; and column G – Length x Width (yards squared).

implementation. Fortunately, there are a number of assumptions that may logically be made and a number of abbreviated approaches that may produce satisfactory results.

The amount of land comprising rights-of-way can be significant and, depending on relative age, the estimated historic cost and/or fair value at acquisition can be substantial.

Rights-of-way, regardless of means of acquisition i.e., donation, purchase, acquisition by use, etc. is generally reported on as if owned fee simple by the government.

As previously mentioned, rights-of-way are non-depreciable and this land is to be added to a government's land account.

Establishing a record of rights-of-way, as with general infrastructure, involves answering a number of questions including:

- How much land do we own? (inventory)
- When was the land acquired? (allocation and aging)
- What did we pay for this land? (estimated historical cost)
- What would we have paid for land that was donated? (fair value at time of donation)

Inventory

In establishing an inventory of rights-of-way, the process can be complicated due to the nature of land and right-of way and its acquisition over many years (in some cases 160 years or more).

Indiana LTAP has developed statewide 'weighted-average' right-of-way widths for rural and urban local roads. Based on the INDOT local road inventory, these weighted-averages are 43.4' for urban streets and 39.0' for rural roads.

Individual LPA's may desire a more accurate figure for right-of-way widths. The INDOT local road inventory is a good survey of this information and may be obtained from either the Program Development Division of INDOT or the Indiana LTAP center.

Allocating and Aging

In allocating and aging rights-of-way or estimating a date of acquisition, there are a number of logical assumptions that can be made which include:

- The rights-of-way were acquired when the road was initially constructed

- The rights-of-way were acquired when the area in question was annexed to the jurisdiction of the government
- Rights-of-way in the oldest area of a city or county were acquired upon the incorporation date of the government
- Other

To be remembered, GASB Statement No. 34 general infrastructure and rights-of-way implementation is not an exact science. Estimates are often a necessity due to information that is non-existent or truly cumbersome and time-consuming to gather, analyze, and utilize.

Costing (establishing estimated historical cost or fair value at acquisition)

In determining estimated historical cost or fair value at acquisition for rights-of-way, it is suggested that a government determine a current land value for its local area and, through application of this amount to the rights-of-way inventory with *deflation* to the estimated date of acquisition, determine an estimated fair value at acquisition of land represented in the specific rights-of-way.

For a GASB Statement No. 34 retroactive rights-of-way implementation, the process, then, follows:

- Start with an inventory of rights-of-way that indicates the amount of land in rights-of-way
- Apply ages or estimated years of acquisition to all land in rights-of-way as appropriate
- Apply the current fair value per acre for your local area to all land and rights-of-way in the inventory regardless of age
- Rights-of-way can now be deflated to estimated year of acquisition. Deflation of current fair value to an estimated historical amount will use the Consumer Price Index*
- Make sure that the look-up table provided in the rights-of-way worksheet matches the year of acquisition to the appropriate deflator for that year
- Have worksheet multiply amount of land by current fair value and then multiply the result by the deflator thus estimating historical cost or fair value at acquisition

*See prior footnote regarding use of the Consumer Price Index in deflating estimated fair value of rights-of-way

Prospective Reporting

The formulas for calculating annual depreciation, accumulated depreciation, and net book value are entered on all worksheets (please note that they must be ‘dragged down’ within the entire inventory so that depreciation will be calculated line by line for all years and all assets).

These formulas tie to the year of the report and this can facilitate prospective reporting in future years.

The process of prospective reporting, then, will involve:

- making a copy of the prior year report
- adding assets constructed or acquired or accepted in the current year
- removing assets retired in the current fiscal year
- changing the date of the ‘copied’ report to the current year

The new date, in this case the current year, will automatically re-calculate the annual depreciation, accumulated depreciation, and net book value through the end of the current fiscal year.

Additional Assistance

Government Fixed Asset Services, Inc.
Chicago, Illinois
773 298 0289
nielsen@fixedassetservices.com

IN LTAP
West Lafayette, Indiana
765 494 2210
inltap@ecn.purdue.edu

Michael M. Nielsen of Government Fixed Asset Services, Inc. will serve as a resource and contact for any GASB Statement No. 34 general infrastructure questions or issues related to this assistance manual.

As governments implement the general infrastructure retroactive reporting provisions of the GASB Statement No. 34 and the general fixed asset provisions (reporting on and depreciating buildings, land improvements, vehicles, and machinery and equipment), they are encouraged to direct questions relative to this assistance manual and the additional issues of inventory, aging, lifing, and depreciating capital assets to Mr. Nielsen. As indicated, Mr. Nielsen can be contacted at 773 298 0289.

This publication has been reviewed and approved for use by the Indiana State Board of Accounts.

Appendix I

GASB - 34

General Infrastructure Retroactive Reporting Information



Purpose:

To establish the estimated total cost of general infrastructures as required by GASB - 34.

Required Information:

Please provide the current calendar year. This is the year that will be used for the GASB - 34 worksheets:

Please provide the name of the agency that is performing a general infrastructure audit using the GASB - 34 worksheets:

Assets:

The assets that Indiana LTAP has reviewed in accordance with GASB - 34 and their corresponding replacement costs are:

Roads and Streets (\$/yds ²)		
	Urban	Rural
Arterials	95	-
Collectors	86	76
Local Systems		
Paved	56	28
Surface Treatments	-	20
Unpaved	-	17

Bridges (\$/ft ²)	
Length < 125' (Local Funding)	106
Length > 125' (Federal Funding)	168

ROW Rural (\$/acre)	
ROW Urban (\$/acre)	

Storm Drainage (\$/LFT)	73
Traffic Signals (\$/Intersection)	77,000
Streetlights (\$/Light)	5,000
Sidewalks (\$/LFT)	15

The value of Right-of-Way (ROW) must be provided by each agency for a typical urban and rural acre of land. The reason that values of ROW were not provided is because the value of ROW can vary so much depending on the area one is looking at.

Instructions:

To complete the following GASB - 34 worksheets one must have an inventory of the assets that will be reviewed by GASB - 34. When using the worksheets the **only information that must be provided by the user are shaded in grey**. For example the year constructed column on the "Rural Local Roads - Unpaved" worksheet must be provided by the user since it is shaded in grey, but the replacement cost total column need not be provided since it is in white. **Even though the worksheets appear to be blank all white areas have equations built into them so please do not type in the white areas.** When, or if, you fill in every provided row that is given on each worksheet it is possible to make new rows to complete your inventory. To do this right click on the number tab on the right side of the last row and hit insert. Then you need to copy and paste all working equations in white from the line above down. The equations will automatically change for the new row number. **If more rows are added do not forget to change the equations for the total summations at the bottom of each worksheet.** To do this just right click on the summation equation and change the last number to the last row on your sheet. Every Road worksheet also has a ROW worksheet with it. The ROW section of the sheet is in a darker box as compared to the road worksheet, but they share information. This is why they are provided on the same worksheet. Please do not forget to complete each ROW section. Finally the final summary sheet will provide a summary of the net book value of all assets. This page will automatically be completed as the worksheets are completed. **Please do not fill in any information of this final worksheet page.**

Name of agency:

\$17

11/11/2019

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[illegible]

Total Sum:			
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Total Sum:	
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* Deflators were acquired from the Federal Highway Administration Price Trends (1930 - 12-31-2003). All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

** After retroactive reporting, the **prospective reporting** in future year is to utilize actual historical cost, hence, there will be no need to apply a 'deflator' to replacement cost.

*** Assume straight-line depreciation, full-year convention, no salvage value.

**** The weighted state-wide average width of 39 ft. for rural ROW and 43.4 ft. for urban ROW were determined from the 2001 Road and Street Inventory Report.

***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Please fill in the shaded information.

Total Sum:	
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***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Name of agency:
 The year of the report:
 The replacement cost of Rural Local Roads - Paved in dollars/yards² is :
 Please fill in the current fair value per rural acre in your area (\$/acre):
 Please fill in the shaded information.

--

\$28

Please fill in the shaded information.

[illegible]

Total Sum:	
------------	--

***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Name of agency:

The year of the report:

The replacement cost of Urban Local Roads in dollars/yards² is :

Please fill in the current fair value per urban acre in your area (\$/acre):

Please fill in the shaded information.

[illegible]

If more rows are added please change the total sum equation. Total Sum:

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Total Sum:	
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***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Name of agency:

The year of the report:

The replacement cost of Rural Collectors in dollars/yards is : \$76

Please fill in the current fair value per rural acre in your area (\$/acre):

Please fill in the shaded information.

[illegible]

Total Sum:	
------------	--

- * Deflators were acquired from the Federal Highway Administration Price Trends (1930 - 12-31-2003). All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.
 ** After retroactive reporting, the **prospective reporting** in future year is to utilize actual historical cost, hence, there will be no need to apply a 'deflator' to replacement cost.
 *** Assume straight-line depreciation, full-year convention, no salvage value.
 **** The weighted state-wide average width of 39 ft. for rural ROW and 43.4 ft. for urban ROW were determined from the 2001 Road and Street Inventory Report.
 ***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Name of agency:

The year of the report:

The replacement cost of urban collectors in dollars/yards² : \$86

Please fill in the current fair value per urban acre in your area (\$/acre):

Please fill in the shaded information.

[illegible]

Total Sum:			
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Total Sum:	
------------	--

* Deflators were acquired from the Federal Highway Administration Price Trends (1930 - 12-31-2003). All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

** After retroactive reporting, the **prospective reporting** in future year is to utilize actual historical cost, hence, there will be no need to apply a 'deflator' to replacement cost.

*** Assume straight-line depreciation, full-year convention, no salvage value.

**** The weighted state-wide average width of 39 ft. for rural ROW and 43.4 ft. for urban ROW were determined from the 2001 Road and Street Inventory Report.

***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Name of agency:

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The year of the report:

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395

[illegible]

Total Sum:	
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** After retroactive reporting, the prospective reporting in future year is to utilize actual historical cost, hence, there will be no need to apply a 'deflator' to replacement cost.

**** The weighted state-wide average width of 39 ft. for rural ROW and 43.4 ft. for urban ROW were determined from the 2001 Road and Street Inventory Report.

Donators were developed from the Consumer Who Watched Film Sales National Average 1970-1972 to 1999. The Donators from 1970-1999 are given by year donors 1970-1999 average 1970-1999 and given by year donors 1970-1999 average 1970-1999.

Infrastructure Inventory and Property Record Template - Sidewalks

Name of agency:

The year of the report:

The replacement cost of a sidewalk in dollars/ft is :

Please fill in the shaded information.

[illegible]

If more rows are added please change the total sum equation. **Total Sum:**

* Deflators were acquired from the Federal Highway Administration Price Trends (1930 - 12-31-2003). All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

** Assume straight-line depreciation, full-year convention, no salvage value.

Name of agency:

The year of the report:

* The replacement cost of bridges (length<125') in local dollars/ft² of deck is : \$106

* The replacement cost of bridges (length>125') in federal dollars/ft² of deck is : \$168

Please fill in the shaded information.

[illegible]

* The replacement cost of a bridge in \$/ft² is a result of data collected from the 2002 Indiana County Highway Department Bridge Cost Survey SP - 2 - 2002, May 2002 compiled by Indiana LTAP Center using data provided by the Indiana County Highway Departments.

** Deflators were acquired from the Federal Highway Administration Price Trends (1930 - 12-31-2003). All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

*** Assume straight-line depreciation, full-year convention, no salvage value.

Name of agency:	
The year of the report:	
The replacement cost of a streetlights:	\$5,000
Please fill in the shaded information.	

[illegible]

Total Sum:			
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** Assume straight-line depreciation, full-year convention, with no salvage value.

Name of agency:

The year of the report:

The replacement cost of storm drainage in \$/feet:

Please fill in the shaded information.

[illegible]

Total Sum:			
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** Assume straight-line depreciation, full-year convention, with no salvage value.

Infrastructure Inventory and Property Record Template Summary Sheet

Name of agency:	
The year of the report:	

Right of Way Total Net Book Value (\$)		
	Urban	Rural
Arterial		N/A
Collector		
Local		
Paved		
Surface Treatments	N/A	
Unpaved	N/A	
Sum		
Total NBV for all ROW		

Street Total Net Book Value (\$)		
	Urban	Rural
Arterial		N/A
Collector		
Local		
Paved		
Surface Treatments	N/A	
Unpaved	N/A	
Sum		
Total NBV for all Streets		

All other Assets Total Net Book Value (\$)	
Sidewalks	
Bridges	
Traffic Signals	
Streetlights	
Storm Drainage	
Total NBV other Assets	

Total NBV	
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GASB - 34

General Infrastructure Retroactive Reporting Information



Purpose:

To establish the estimated total cost of general infrastructures as required by GASB - 34.

Required Information:

Please provide the current calendar year. This is the year that will be used for the GASB - 34 worksheets:

2004

Please provide the name of the agency that is performing a general infrastructure audit using the GASB - 34 worksheets:

Davis County

Assets:

The assets that Indiana LTAP has reviewed in accordance with GASB - 34 and their corresponding replacement costs are:

Roads and Streets (\$/yds ²)		
	Urban	Rural
Arterials	95	-
Collectors	86	76
Local Systems		
Paved	56	28
Surface Treatments	-	20
Unpaved	-	17

Bridges (\$/ft ²)	
Length < 125' (Local Funding)	106
Length > 125' (Federal Funding)	168

ROW Rural (\$/acre)	Please Provide
ROW Urban (\$/acre)	Please Provide

Storm Drainage (\$/LFT)	73
Traffic Signals (\$/Intersection)	77,000
Streetlights (\$/Light)	5,000
Sidewalks (\$/LFT)	15

The value of Right-of-Way (ROW) must be provided by each agency for a typical urban and rural acre of land. The reason that values of ROW were not provided is because the value of ROW can vary so much depending on the area one is looking at.

Instructions:

To complete the following GASB - 34 worksheets one must have an inventory of the assets that will be reviewed by GASB - 34. When using the worksheets the **only information that must be provided by the user are shaded in grey**. For example the year constructed column on the "Rural Local Roads - Unpaved" worksheet must be provided by the user since it is shaded in grey, but the replacement cost total column need not be provided since it is in white. **Even though the worksheets appear to be blank all white areas have equations built into them so please do not type in the white areas**. When, or if, you fill in every provided row that is given on each worksheet it is possible to make new rows to complete your inventory. To do this right click on the number tab on the right side of the last row and hit insert. Then you need to copy and paste all working equations in white from the line above down. The equations will automatically change for the new row number. **If more rows are added do not forget to change the equations for the total summations at the bottom of each worksheet**. To do this just right click on the summation equation and change the last number to the last row on your sheet. Every Road worksheet also has a ROW worksheet with it. The ROW section of the sheet is in a darker box as compared to the road worksheet, but they share information. This is why they are provided on the same worksheet. Please do not forget to complete each ROW section. Finally the final summary sheet will provide a summary of the net book value of all assets. This page will automatically be completed as the worksheets are completed. **Please do not fill in any information of this final worksheet page.**

Void Example Only

Please fill in the shaded information.

Total Sum:	\$913,564
------------	-----------

***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

Please fill in the shaded information.

Total Sum:	\$1,310,177
------------	-------------

***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

2004

\$28

\$9.700

Please fill in the shaded information.

[illegible]

Total Sum:	\$1,349,814
------------	-------------

***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

Name of agency: Davis County

The year of the report: 2004

The replacement cost of Urban Local Roads in dollars/yards² is : \$56

Please fill in the current fair value per urban acre in your area (\$/acre): \$23,000 **For example only. Please do not use.**

Please fill in the shaded information.

* Deflators were acquired from the Federal Highway Administration Price Trends (1930 - 12-31-2003). All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.
 ** After retroactive reporting, the **prospective reporting** in future year is to utilize actual historical cost, hence, there will be no need to apply a 'deflator' to replacement cost.
 *** Assume straight-line depreciation, full-year convention, no salvage value.
 **** The weighted state-wide average width of 39 ft. for rural ROW and 43.4 ft. for urban ROW were determined from the 2001 Road and Street Inventory Report.
 ***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

Please fill in the shaded information.

\$76
\$9,700

For example only. Please do not use.

[illegible]

Total Sum:	\$1,425,518
------------	-------------

***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

Please fill in the shaded information.

Total Sum:	\$4,781,943
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***** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

Please fill in the shaded information.

Total Sum:	\$3,341,454
------------	-------------

**** Deflators were developed from the Consumer Price Index - All Cities National Average 1913 - 12-31-2003. All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

Please fill in the shaded information.

If more rows are added please change the total sum equation.

Total Sum:	\$906	\$28,132	\$27,408
------------	-------	----------	----------

** Assume straight-line depreciation, full-year convention, no salvage value.

Void Example Only

Void Example Only

Please fill in the shaded information.

If more rows are added please change the total sum equation.

Total Sum:	\$203,293	\$4,825,408	\$7,948,009
------------	-----------	-------------	-------------

*** Assume straight-line depreciation, full-year convention, no salvage value.

Void Example Only

Void Example Only

Name of agency:	Davis County
The year of the report:	2004
The replacement cost per intersection:	\$77,000
Please fill in the shaded information.	

If more rows are added please change the total sum equation.	Total Sum:	\$15,061	\$324,108	\$216,432
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* Deflators were acquired from the Federal Highway Administration Price Trends (1930 - 12-31-2003). All deflators from 2003 - 1980 are given by year. Before 1980 an average value is given per decade.

Void Example Only

Void Example Only

Davis County
2004
\$5,000

Void Example Only

Void Example Only

Name of agency:	Davis County
The year of the report:	2004
The replacement cost of storm drainage in \$/feet:	\$73

Please fill in the shaded information.

If more rows are added please change the total sum equation.	Total Sum:	\$13,687	\$200,140	\$496,909
--	------------	----------	-----------	-----------

Void Example Only

Infrastructure Inventory and Property Record Template Summary Sheet

Name of agency:	Davis County
The year of the report:	2004

Right of Way Total Net Book Value (\$)		
	Urban	Rural
Arterial	\$3,341,454	N/A
Collector	\$4,781,943	\$1,425,518
Local		
Paved	\$2,856,253	\$1,349,814
Surface Treatments	N/A	\$1,310,177
Unpaved	N/A	\$913,564
Sum	\$10,979,650	\$4,999,073
Total NBV for all ROW	\$15,978,722	

Street Total Net Book Value (\$)		
	Urban	Rural
Arterial	\$39,132,245	N/A
Collector	\$54,558,633	\$36,072,384
Local		
Paved	\$13,381,491	\$7,357,430
Surface Treatments	N/A	\$4,239,650
Unpaved	N/A	\$2,429,246
Sum	\$107,072,369	\$50,098,711
Total NBV for all Streets	\$157,171,080	

All other Assets Total Net Book Value (\$)	
Sidewalks	\$27,408
Bridges	\$7,948,009
Traffic Signals	\$216,432
Streetlights	\$2,035,176
Storm Drainage	\$496,909
Total NBV other Assets	\$10,723,934

Total NBV	\$183,873,736
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Appendix II

Unit Costs Summary

Roads and Streets (\$/yds ²)		
	Urban	Rural
Arterials	95	-
Collectors	86	76
Local Systems		
Paved	56	28
Surface Treatments	-	20
Unpaved	-	17

Bridges (\$/ft ²)	
Length < 125' (Local Funding)	106
Length > 125' (Federal Funding)	168

Storm Drainage (\$/LFT)	73
-------------------------	----

Traffic Signals (\$/Intersection)	77,000
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Streetlights (\$/Light)	5,000
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Sidewalks (\$/LFT)	15
--------------------	----

ROW Rural (\$/acre)	Please Provide
ROW Urban (\$/acre)	Please Provide

Appendix III

Rural Local Roads - Chip Seal

	Org. Name	Current Cost with Engineering (\$/yd ²)
Rural Road Chip Seal	Porter	\$17.35
Rural Road Chip Seal	-	\$19.40
Rural Road Chip Seal	Monroe	\$23.25
Average		\$20.00

Assume 30.00 \$/LFT for Culverts with 360 LFT of culvert per mile = 10800 \$/mile.

Use 16%for engineering.

Assume the road is 18' wide.

Data is from counties that have determined unit prices for their highway assets.

Rural Local Roads - Unpaved

	Org. Name	Current Cost with Engineering (\$/yd ²)
Rural Road Unpaved	Porter	\$9.92
Rural Road Unpaved	-	\$17.98
Rural Road Unpaved	Monroe	\$22.50
Average		\$16.80

Assume 30.00 \$/LFT for Culverts with 280 LFT of culvert per mile = 8400 \$/mile.

Use 16%for engineering.

Assume the road is 18' wide.

Data is from counties that have determined unit prices for their highway assets.

Rural Local Roads - Paved

	Org. Name	Current Cost with Engineering (\$/yd ²)
Rural Road Paved	Porter	\$24.91
Rural Road Paved	-	\$26.68
Rural Road Paved	Monroe	\$33.71
Average		\$28.43

Assume 30.00 \$/LFT for Culverts with 440 LFT of culvert per mile = 13200 \$/mile.

Use 16%for engineering.

Assume the road is 18' wide.

Data is from counties that have determined unit prices for their highway assets.

Urban Local Roads

	Project Name	Org. Name	Total Project Cost (\$)	Length of Road (yds)	Width of Road (yds)	Cost of Construction Engineering (\$/yd ²)	Cost w/ CE (\$/yd ²)	Cost of Preliminary Engineering (\$/yd ²)	Cost w/ PE (\$/yd ²)	Cost with other GASB Assets Removed (\$/yd ²)	Year	Current Cost Engineering Included (\$/yd ²)
* Urban Road	Loesch Road	Monroe	\$249,413	453.3	10.3	\$2.13	\$55.38	\$5.33	\$60.71	49.39	1998	\$58.30
* Urban Road	Zenith Drive	Monroe	\$407,886	558.0	10.3	\$2.80	\$73.54	\$7.08	\$80.62	61.86	2003	\$61.86
* Urban Road	Profile Parkway, Phase 4	Monroe	\$632,707	800.7	10.8	\$2.89	\$76.05	\$7.32	\$83.37	65.64	2003	\$65.64
* Urban Road	Park Square Drive	Monroe	\$212,042	239.3	11.7	\$3.01	\$79.00	\$7.60	\$86.60	55.99	2003	\$55.99
* Urban Road	Liberty Drive, Phase 4	Monroe	\$235,936	363.0	10.6	\$2.39	\$62.79	\$6.13	\$68.92	57.72	2001	\$59.71
* Urban Road	Profile Parkway, Phase 3	Monroe	\$157,564	233.3	10.3	\$2.62	\$67.97	\$6.56	\$74.53	56.70	1998	\$66.93
** Urban Road	-	Porter	-	-	-	included	-	included		45.96	-	\$45.96
** Urban Road	-	-	-	-	-	\$1.78	-	\$2.97		34.17	-	\$39.64
** Urban Road	-	Monroe	-	-	-	included	-	included		45.60	-	\$45.60
											Average	\$55.52

* This information was the result of a mass fax asking for information on the cost to construct new county roads and city streets.

** Data is from counties that have determined unit prices for their highway assets.

The GASB assets that have been removed are sidewalks, storm sewer, and traffic signals when necessary.

Assume 30.00 \$/LFT for Culverts with 1560 LFT of culvert per mile = 46800 \$/mile when data is not known.

Use 16% for engineering when necessary.

Use 10% for preliminary engineering when necessary.

Use 6% for construction engineering when necessary.

Assume the road is 20' wide when necessary.

Current costs were calculated using Federal Highway Administration Price Trends through 12-31-2003.

Rural Collectors

	Project Name	Org. Name	Total Project Cost (\$)	Length of Road (yds)	Width of Road (yds)	Cost (\$/yd ²)	Cost of Construction Engineering (\$/yd ²)	Cost of Preliminary Engineering (\$/yd ²)	Cost with Engineering and other GASB Assets Removed (\$/yd ²)	Year	Current Cost (\$/yd ²)
* Rural Collector	CR 800 South	LaGrange	-	7040.0	7.3	\$56.13	\$3.37	\$5.61	\$65.11	2000	\$66.99
* Rural Collector	Greensboro Pike - North	Henry	-	10048.0	7.3	\$74.00	included	included	\$74.00	2000	\$76.13
* Rural Collector	Greensboro Pike - South	Henry	-	18169.0	7.3	\$91.00	included	included	\$91.00	2000	\$93.62
* Rural Collector	Newton Street	Norman	-	3450.0	13.3	\$43.00	\$2.58	\$4.30	\$49.88	1999	\$54.74
** Rural Collector	Flat Rock	Shelby	\$3,800,000	5955.7	12.3	-	included	\$5.35	\$57.43	1997	\$65.87
** Rural Collector	CR 250 E.	Winona Lake	\$1,721,000	1699.0	12.5	\$81.23	included	included	\$81.23	2000	\$83.57
** Rural Collector	Ferdinand Bypass	Ferdinand	\$3,675,000	3285.3	14.4	-	included	\$10.88	\$88.34	2003	\$88.34

Average	\$75.61
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* This information was the result of a mass fax asking for information on the cost to construct new county roads and city streets.

** This information was the result of examining the final design summary from INDOT records.

Current costs were calculated using Federal Highway Administration Price Trends through 6-30-2003.

The GASB assets that have been removed are sidewalks and traffic signals when necessary.

Assume 5 \$/SYD for Culverts when not given.

Use 16% for engineering.

Use 10% for preliminary engineering when necessary.

Use 6% for construction engineering when necessary.

Urban Collectors

	Project Name	Org. Name	Total Project Cost (\$)	Length of Road (yds)	Width of Road (yds)	Cost of Construction Engineering (\$/yd ²)	Cost of Preliminary Engineering (\$/yd ²)	Cost with Engineering (\$/yd ²)	Cost with other GASB Assets Removed (\$/yd ²)	Year	Current Cost (\$/yd ²)
* Urban Collector	Coldwater Rd.	Allen	\$7,797,013	6215	18.0	\$4.18	\$6.97	\$80.85	\$70.85	2002	\$71.76
** Urban Collector	S. main St.	Princeton	\$2,000,000	1382	12.5	included	\$13.00	\$115.80	\$105.80	2003	\$105.80
** Urban Collector	Industries Rd.	Richmond	\$2,223,900	1608.2	17.1	included	\$5.58	\$86.59	\$76.59	2003	\$76.59
** Urban Collector	Rush County Rd.	Rush	\$1,880,000	2344.3	9.2	included	\$5.76	\$93.02	\$83.02	2001	\$85.88
** Urban Collector	CR 200W	Clinton	\$1,370,000	868.7	16.7	included	\$5.78	\$99.99	\$89.99	2003	\$89.99
											\$86.00

* This information was the result of a mass fax asking for information on the cost to construct new county roads and city streets.

** This information was the result of examining the final design summary from INDOT records.

Current costs were calculated using Federal Highway Administration Price Trends through 6-30-2003.

The GASB assets that have been removed are sidewalks, storm sewer, and traffic signals when necessary.

Assume 6 \$/SYD for Culverts when not given.

Assume 10 \$/SYD for Storm Sewer when not given.

Assume 50' width when not given.

Use 16% for engineering.

Use 10% for preliminary engineering when necessary.

Use 6% for construction engineering when necessary.

Urban Arterial Streets

	Project Name	Org. Name	Total Project Cost (\$)	Length of Road (yds)	Width of Road (yds)	Cost of Construction Engineering (\$/yd ²)	Cost w/ CE (\$/yd ²)	Cost of Preliminary Engineering (\$/yd ²)	Cost w/ PE (\$/yd ²)	Cost with other GASB Assets Removed (\$/yd ²)	Year	Current Cost Engineering Included (\$/yd ²)
* Urban Arterial	Curry Pike, Phase 2A	Monroe	\$2,043,382	995.0	21.7	\$11.92	\$106.43	\$9.45	\$115.88	100.88	1998	\$119.09
* Urban Arterial	Curry Pike, Phase 3	Monroe	-	-	-	included	\$90.43	\$9.04	\$99.47	81.83	2002	\$82.88
* Urban Arterial	Business 37/Rhorer Rd./Gordon Pk.	Monroe	\$821,153	925.7	12.9	\$1.37	\$70.09	\$6.87	\$76.96	61.96	2000	\$63.74
* Urban Arterial	Curry Pike, Phase 2B	Monroe	\$1,393,639	648.8	19.7	\$13.08	\$122.12	\$10.90	\$133.02	118.02	2000	\$121.42
** Urban Arterial	University Park	Vanderburgh	\$12,699,900	8514.0	22.7	included	\$65.86	\$3.79	\$69.64	59.64	1993	\$82.49
** Urban Arterial	AmeriPLEX Pkwy	Marion	\$3,991,187	1408.0	22.7	included		included	\$125.21	115.21	2003	\$115.21
** Urban Arterial	Central Ave.	Lake Station	\$1,270,000	957.3	15.8	\$12.67	\$96.90	\$5.90	\$102.81	87.81	1996	\$109.44
** Urban Arterial	Veterans Memorial Dr.	Fayette	\$2,549,961	2297.4	13.1	included	\$84.73	\$6.28	\$91.01	81.01	2002	\$82.05
** Urban Arterial	Veterans Memorial Dr.	Fayette	\$2,800,000	3168.0	10.5	included	-	included	\$84.18	74.18	2003	\$74.18
** Urban Arterial	Taylor Rd.	Columbus	\$1,362,600	880.0	16.7	included	-	included	\$93.00	83.00	2003	\$83.00
** Urban Arterial	Auburn Rd.	Auburn	\$3,979,000	4376.0	10.5	included	\$86.60	\$6.88	\$93.48	83.48	1999	\$91.61
** Urban Arterial	122nd st.	Carmel	\$4,830,000	1971.2	22.4	included	\$109.19	\$2.71	\$111.91	101.91	2000	\$104.85
** Urban Arterial	N/S Corridor	Hendricks	\$3,100,000	1795.2	15.2	included	\$113.76	\$4.95	\$118.71	108.71	2003	\$108.71

Average	\$95.28
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* This information was the result of a mass fax asking for information on the cost to construct new county roads and city streets.

** This information was the result of examining the final design summary from INDOT records.

Current costs were calculated using Federal Highway Administration Price Trendstrough 6-30-2003.

The GASB assets that have been removed are sidewalks, storm sewer, and traffic signals when necessary.

Use 16% for engineering when needed.

Use 10% for preliminary engineering when necessary.

Use 6% for construction engineering when necessary.

Assume 6 \$/SYD for Culverts when not given.

Assume 10 \$/SYD for Storm Sewer when not given.

Assume 50' width when not given.

Assume 5.00 \$/yd² for sidewalk when not given.

Storm Drainage

Pipe

Storm Drainage (LFT)					
Type of Pipe	Contract ID / Letting date	District / County	Pipe Diameter (m)	Pipe Diameter (Inches)	Unit Price w/ Engineering (\$/ft)
Storm Drainage Pipe (Type 2)	R-26933-B / 02/17/04	Greenfield / Tipton	750	29.52	\$56
Storm Drainage Pipe (Type 2)	R-26933-B / 02/17/04	Greenfield / Tipton	600	23.62	\$48
Storm Drainage Pipe (Type 2)	R-26614-A / 03/23/04	Crawfordsville / Boone	300	11.81	\$21
Storm Drainage Pipe (Type 2)	R-26614-A / 03/23/04	Crawfordsville / Boone	375	14.76	\$24
Storm Drainage Pipe (Type 2)	R-26614-A / 03/23/04	Crawfordsville / Boone	525	20.66	\$33
Storm Drainage Pipe (Type 2)	R-26614-A / 03/23/04	Crawfordsville / Boone	750	29.52	\$47
Storm Drainage Pipe (Type 2)	R-26131-A / 05/25/04	Greenfield / Marion	900	35.42	\$60
Storm Drainage Pipe (Type 2)	R-26131-A / 05/25/04	Greenfield / Marion	375	14.76	\$27
Storm Drainage Pipe (Type 2)	R-26131-A / 05/25/04	Greenfield / Marion	450	17.71	\$30
Storm Drainage Pipe (Type 2)	R-26131-A / 05/25/04	Greenfield / Marion	1050	41.33	\$71
Storm Drainage Pipe (Type 2)	R-26131-A / 05/25/04	Greenfield / Marion	900	35.42	\$61
Storm Drainage Pipe (Type 2)	R-26131-A / 05/25/04	Greenfield / Marion	375	14.76	\$30
Storm Drainage Pipe (Type 2)	R-26937-A / 05/25/04	Laporte / St. Joseph	900	35.42	\$42
Storm Drainage Pipe (Type 2)	R-26937-A / 05/25/04	Laporte / St. Joseph	300	11.81	\$18
Storm Drainage Pipe (Type 2)	R-26937-A / 05/25/04	Laporte / St. Joseph	600	23.62	\$33
			Average	24.01	\$40

The replacement cost of a storm drainage pipe is a result of data collected from the INDOT Official Tabulation of Bids received for Lettings in the current year. All INDOT Official bids include engineering, labor, equipment, planning, design, and inspection.

Manhole

Type of Manhole	Contract ID / Letting date	District / County	Unit Price (\$/unit)
C4	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$3,200
D4	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$5,200
A4	R -25756-A / 05/25/04	Laporte / Lake	\$1,730
B	R -25756-A / 05/25/04	Laporte / Lake	\$4,010
B4	R -26131-A / 05/25/04	Greenfield / Marion	\$2,500
C4	R -26131-A / 05/25/04	Greenfield / Marion	\$1,950
C4	R -26131-A / 05/25/04	Greenfield / Marion	\$2,300
C4	R -26131-A / 05/25/04	Greenfield / Marion	\$3,490
Average			\$3,048

Assume one manhole for every 500'. This is 6.095 \$/ft

The replacement cost of a manhole is a result of data collected from the
INDOT Official Tabulation of Bids received for Lettings in the current year.

All INDOT Official bids include engineering, labor, equipment, planning, design, and inspection.

Inlet

Type of Inlet	Contract ID / Letting date	District / County	Unit Price (\$/unit)
E7	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$1,500
J10	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$1,750
M10	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$1,900
B15	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$2,400
C15	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$2,200
F7	R -25756-A / 05/25/04	Laporte / Lake	\$1,230
N12	R -25756-A / 05/25/04	Laporte / Lake	\$3,445
E7	R -26131-A / 05/25/04	Greenfield / Marion	\$1,200
Average			\$1,953

Assume one per 140'. This is 14 \$/ft.

The replacement cost of an inlet is a result of data collected from the
INDOT Official Tabulation of Bids received for Lettings in the current year.

All INDOT Official bids include engineering, labor, equipment, planning, design, and inspection.

Catch Basin

Type of Inlet	Contract ID / Letting date	District / County	Unit Price (\$/unit)
K10	R -25756-A / 05/25/04	Laporte / Lake	\$1,560
W2	R -25756-A / 05/25/04	Laporte / Lake	\$3,010
K10	R -25756-A / 05/25/04	Laporte / Lake	\$2,961
K10	R -25395-A / 05/25/04	Vincennes / Vanderburgh	\$3,300
E7	R-26295-A / 05/25/04	Greenfield / Marion	\$1,020

Average	\$2,370
---------	---------

Assume one per 140'. This is 16.93 \$/ft

The replacement cost of a catch basin is a result of data collected from the INDOT Official Tabulation of Bids received for Lettings in the current year.

All INDOT Official bids include engineering, labor, equipment, planning, design, and inspection.

Assume an inch of sand under the pipe

Assume sand is 17\$/m³, or 0.1 \$/ft negligible.

Total Cost for storm drainage: 40.10 \$/ft + 6.095 \$/ft + 14 \$/ft + 16.93 \$/ft

77.13 \$/ft

Project	Total Cost of Storm Sewer for Project (\$)	Total Length of Storm (ft.)	Cost of Storm (\$/LFT)	Cost of Construction Engineering (\$/yd ²)	Cost of Preliminary Engineering (\$/yd ²)	Cost with Engineering (\$/LFT)
Liberty Drive	88562	1045	\$84.75	included	\$8.48	\$93.23
Profile Prkway	124486	2658	\$46.83	included	\$4.68	\$51.52
Prk. Sq. Dr.	66295	1291	\$51.35	included	\$5.14	\$56.49
Average						\$67.08

Data is from the bid reports of different highway projects.

Use 16% for engineering when necessary.

Use 10% for preliminary engineering when necessary.

Project	Org. Name	Cost with Engineering (\$/LFT)
*	-	\$75.00

* Data is from counties that have determined unit prices for their highway assets.

Average of 77.13 \$/ft, 67.08 \$/ft, and 75.00 \$/ft

73.07 \$/ft

Traffic Signal Data

Traffic Signal	Cost With Engineering (\$/Intersection)	Contract ID	County	Location
*	\$93,847.40	T-27361-A	Marion / Shelby	I-70 @ Holt Rd., SR 9 @ Mechanic St.
*	\$72,420.30	T-27386-A	Wayne	US 40 @ Industrial Parkway, US 27 SB @ South "E" St.
*	\$78,437.20	T-27395-A	Clark / Scott	SR 56 @ I-65 NB Ramp, SR 60 @ SR 111, & SR 311 @ Old Sr. 60
*	\$58,431.03	T-27606-A	Laporte / Porter	US 20 @ Samuelson Rd., US 30 @ SR 39, US 20 @ Beam St., SR 130 @ CO. Rd. 475W
*	\$72,429.63	T-27191-A	Jasper / Lake / Laporte	US 30 @ Janice Rd., SR 130 @ SR 51, SR 2 @ Fail Rd., SR 10 @ CO. Rd. 400W
*	\$54,356.46	T-26952-A	Floyd	SR 111 @ Elm St., Ekin St., University Woods, and IUS Entrance
*	\$99,489.63	T-26870-A	Vanderburgh	Sate Rd. 57 @ Kansas Rd.
*	\$80,664.20	T-27280-A	Clark	SR 62 @ Bethany Rd.
*	\$56,078.70	T-26807-A	Laporte / Lake	US 421 @ SR 2 S. Junction, US 12 @ Karwick Rd., US 12 @ Bigger St.
*	\$83,478.00	T-26946-A	Boone / Morgan / Hendricks	US 421 @ CR 300S, SR 267 @ CR 200N, SR 267 @ Tilden Rd., SR 42 @ SR 267

Traffic Signal	Org. Name	Cost (\$/Intersection)	Cost With Engineering (\$/Intersection)
**	-	70000	81200.00
**	Monroe	-	94651.42

Average	\$77,123.66
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* The replacement cost of a Traffic Signal is a result of data collected from the INDOT Official Tabulation of Bids Received for Lettings in the current year.

All INDOT Official bids include engineering, labor, equipment, planning, design, and inspection.

** Data is from counties that have determined unit prices for their highway assets.

Use 16% for engineering when necessary.

Sidewalk Data

Cost of Sidewalk(\$/LFT)	Project Location	Year Built	Cost of Construction Engineering (\$/yd ²)	Cost of Preliminary Engineering (\$/yd ²)	Cost Eng. Included (\$/LFT)	Current Cost Eng. Included (\$/LFT)
\$13.67	Curry Pike, Phase III	2003	included	\$1.37	\$15.04	\$15.04
\$7.78	Liberty Drive	2001	included	\$0.78	\$8.56	\$8.85
\$18.33	Loesch Road	1998	included	\$1.83	\$20.16	\$23.80
\$12.78	Park Square Drive	2003	included	\$1.28	\$14.06	\$14.06
\$13.33	Profile Parkway	2003	included	\$1.33	\$14.66	\$14.66
\$11.94	Zenith Drive	2003	included	\$1.19	\$13.13	\$13.13

Average	\$14.92
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Data is from counties that have determined unit prices for their highway assets.
 Use 16% for engineering when necessary.
 Use 10% for preliminary engineering when necessary.

Street Light Data

Street Lights (\$/light)	Street Lights with Engineering
* 4500	\$5,220.00
** 4116.61	\$4,775.27
Average	\$4,997.64

* Data is from counties that have determined unit prices for their highway assets.
 ** Data collected from Cinergy Energy.
 Use 16% for engineering.

Appendix IV

Development of Resource Guide for Implementation of GASB No. 34 for Indiana Local Governments

Indiana LTAP, aided by Michael M. Nielsen of Government Fixed Asset Services, Inc., has collected data to be used to establish the estimated historical cost of general infrastructure as required by GASB Statement #34. This information has been summarized in a working report that will be distributed to Indiana local governments.

The assets that Indiana LTAP has reviewed in accordance with GASB Statement #34 are: urban arterial roads, rural and urban collector roads, rural and urban local paved roads, chip and seal roads, local unpaved roads, traffic signals, street lights, bridges, storm sewers, and sidewalks. It can be seen from the table below which road assets were used. Information has been gathered to form unit costs of new construction for each asset.

	Urban	Rural
Arterials	Yes	N/A
Collectors	Yes	Yes
Local Roads		
Paved	Yes	Yes
Chip Seal	N/A	Yes
Unpaved	N/A	Yes

A collection of methods was used to determine the unit costs for each asset. To determine the unit cost of new construction in \$/yds² for chip and seal roads, local unpaved rural roads, and local rural roads Indiana LTAP examined data that other counties had provided from previous GASB Statement #34 implementations and averaged this with data from local contractors.

To determine the unit cost for local urban roads in \$/yds² data was gathered from a broadcast fax from Indiana LTAP asking different agencies to provide information for new construction projects built within the last five years. This data was averaged with data that other counties that previously implemented GASB Statement #34 had provided.

To determine the unit cost for urban collector roads, rural collector roads, and arterial roads, all in \$/yds², data was averaged with information from the broadcast fax again and the final design summary reports of many projects of varying functional classification across Indiana. These design summary reports were provided by Indiana Department of Transportation.

It must be noted that unit price for all roads does not include any storm drainage, traffic signals, bridges, sidewalks, or any other asset which will be itemized separately in this report.

The replacement cost of a bridge, in \$/ft², is a result of data collected from the 2002 Indiana County Highway Department Bridge Cost Survey compiled by Indiana LTAP Center using data provided by the Indiana County Highway Departments. The

average total bridge costs are given in the report as both local and federal. It will be assumed that a bridge less than 125 feet in length will use local funding and a bridge more than 125 feet in length will use federal funding.

INDOT Official Tabulation of Bids received for lettings in the current year were used to determine the average unit prices for storm drainage pipes, manholes, inlets, catch basins, and any other item that is a part of a storm drainage system. From the examination of many area roads of varying functional classifications Indiana LTAP estimated the average number of manholes, catch basins, and inlets per mile. This data, along with data other counties had provided for storm sewers, was averaged together to provide an average unit price for storm drainage in \$/LFT.

The average unit cost of a traffic signal, in \$/intersection, also came from the INDOT Official Tabulation of Bids received for lettings in 2004 and other counties that had provided data for traffic signals.

The average unit cost of a sidewalk, in \$/LFT, was a collection of data provided once again by counties that had information for sidewalks.

Finally the average unit cost of a street light, in \$/light, is a collection of data provided from local electric and power companies and counties that had provided unit prices for their highway assets. All final unit costs for each asset include both construction and preliminary engineering and have been updated to the current replacement cost using Federal Highway Administration price trends.

This information can be used in a working Excel spreadsheet for each asset to calculate the net book value of all assets. This is done by deflating the new cost to build or install the asset to the cost when the asset was originally installed. Then the deflated new asset cost is depreciated to its current net book value using straight line depreciation.

Chad Konger
Graduate Research Assistant

Appendix V

Federal Highway Administration Price Trends

1930 to 12-31-03

1930 to 1949 (1925 - 1929 base) 1950 to 1971 (1967 base)
1972 to present (1987 base)

year	actual index	deflator	pre-1930 utilizing uniform distribution is estimated at:
1930	85.7	0.06	
1931	76.8	0.06	
1932	61.0	0.05	1929 to 1920 - 0.05
1933	76.7	0.06	1919 to 1910 - 0.04
1934	84.0	0.06	1909 to 1900 - 0.03
1935	80.6	0.06	1899 to 1890 - 0.02
1936	82.9	0.06	1889 to 1880 - 0.01
1937	79.4	0.06	
1938	72.8	0.05	
1939	72.6	0.05	
1940	71.6	0.05	
1941	81.8	0.06	
1942	109.9	0.08	
1943	126.9	0.09	
1944	115.5	0.09	
1945	111.7	0.08	
1946	122.9	0.09	
1947	140.4	0.10	
1948	158.2	0.12	
1949	155.2	0.12	
1950	66.6	0.12	
1951	81.8	0.15	
1952	84.1	0.16	
1953	81.0	0.15	
1954	76.4	0.14	
1955	74.3	0.14	
1956	84.0	0.16	
1957	87.7	0.16	
1958	85.6	0.16	
1959	82.0	0.15	
1960	80.1	0.15	
1961	80.7	0.15	
1962	84.1	0.16	

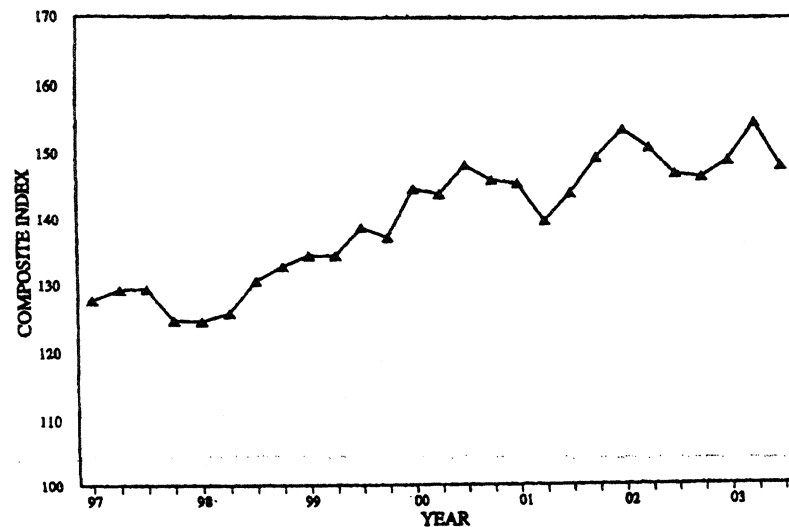
1963		80.4		0.15			
1964		86.9		0.16			
1965		90.3		0.17			
1966		96.1		0.18			
1967		100.0		0.19			
1968		103.4		0.19			
1969		111.8		0.21			
1970		125.6		0.23			
1971		131.7		0.25			
1972		38.6		0.26			
1973		42.5		0.28			
1974		57.9		0.39			
1975		58.1		0.39			
1976		56.3		0.38			
1977		59.8		0.40			
1978		70.7		0.47			
1979		85.5		0.57			
1980		97.2		0.65			
1981		94.2		0.63			
1982		88.5		0.59			
1983		87.6		0.58			
1984		92.6		0.62			
1985		102.0		0.68			
1986		101.1		0.67			
1987		100.0		0.67			
1988		106.6		0.71			
1989		107.7		0.72			
1990		108.5		0.72			
1991		107.5		0.72			
1992		105.1		0.70			
1993		108.3		0.72			
1994		115.1		0.77			
1995		121.9		0.81			
1996		120.2		0.80			
1997		130.6		0.87			
1998		126.9		0.85			
1999		136.5		0.91			
2000		145.6		0.97			
2001		144.8		0.97			
2002		147.9		0.99			
2003		149.8		1.00			

PRICE TRENDS for FEDERAL-AID HIGHWAY CONSTRUCTION

1987 BASE

FOURTH QUARTER 2003

THREE-QUARTER MOVING INDEX PRICE TREND
1987 BASE



The three-quarter moving composite price index is the weighted average of the indices for three consecutive quarters.

The Composite Bid Price Index is composed of six indicator items: common excavation, to indicate the price trend for all roadway excavation; portland cement concrete pavement and bituminous concrete pavement, to indicate the price trend for all surfacing types; and reinforcing steel, structural steel, and structural concrete, to indicate the price trend for structures. Descriptions of the six indicator items can be found in Federal-aid Policy Guide G-6011-10.

Development of the index is discussed in some detail in PUBLIC ROADS magazines, volume 31, No. 10, October 1961; volume 36, No. 4, October 1970; and volume 45, No. 1, June 1981.

Average contract prices shown herein are based on actual bids and include costs of materials, labor, equipment, overhead and profit.

Disclaimer: The base for each State index is its own particular "market basket" of quantities and costs during the base period. The composite index for each State measures the change in that State's index since base year 1987. (in 1987 each State's index equaled 100). **These indices are not to be used for State comparisons.**

The information contained in this document is based on a limited sampling of information, as provided to the Federal Highway Administration (FHWA) by State Departments of Transportation. FHWA guidance calls for data to be provided on all National Highway System projects except those projects with a contract value less than \$500,000, or installation of protective devices at railroad grade crossings, or beautification projects.

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PRICE TRENDS FOR FEDERAL-AID HIGHWAY CONSTRUCTION

1987 Base

Year	Common excavation		Surfacing						Structures								Composite index
	Average contract price (cu. yd.)	Index	Portland cement concrete ²		Bituminous concrete		Surfacing index	Reinforcing steel		Structural steel		Structural concrete		Structures index			
			Average contract price (sq. yd.)	Index	Average contract price (ton)	Index		Average contract price (lb.)	Index	Average contract price (lb.)	Index	Average contract price (cu. yd.)	Index				
197272	29.7	6.42	43.6	9.23	37.5	39.5	.181	41.1	.342	38.6	100.17	41.6	40.7	38.6		
197380	33.0	7.00	47.5	10.02	40.7	42.9	.207	47.0	.372	42.0	111.81	46.4	45.4	42.5		
1974	1.00	41.2	8.88	60.3	14.74	59.8	60.0	.339	76.9	.551	62.3	136.80	56.8	61.7	57.9		
1975	1.03	42.5	8.88	60.3	15.13	61.4	61.0	.297	67.4	.554	62.6	138.76	57.6	60.6	58.1		
1976	1.03	42.5	8.92	60.6	14.83	60.2	60.3	.258	58.5	.484	54.7	139.59	58.0	57.2	56.3		
1977	1.16	47.8	9.95	67.5	15.47	62.8	64.3	.272	61.7	.520	58.8	143.51	59.6	59.7	59.8		
1978	1.54	63.5	11.90	80.8	17.16	69.6	73.3	.316	71.7	.603	68.1	172.41	71.6	70.7	70.7		
1979	1.62	66.8	14.02	95.2	21.21	86.1	89.0	.421	95.5	.759	85.8	211.33	87.8	88.6	85.5		
1980	1.83	75.5	14.92	101.3	25.29	102.6	102.2	.483	109.6	.941	106.3	226.68	94.1	100.0	97.2		
1981	1.76	72.6	14.17	96.2	25.63	104.0	101.4	.438	99.4	.790	89.3	231.64	96.2	94.9	94.2		
1982	1.59	65.6	13.03	88.5	24.33	98.7	95.3	.407	92.4	.762	86.1	219.63	91.2	90.0	88.5		
1983	1.74	71.8	12.69	86.1	24.27	98.5	94.4	.398	90.3	.708	80.0	213.85	88.8	86.7	87.6		
1984	1.90	78.4	13.64	92.6	26.52	107.6	102.7	.409	92.8	.709	80.1	218.02	90.5	88.2	92.6		
1985	2.24	92.4	14.31	97.1	28.52	115.7	109.6	.444	100.7	.796	89.9	243.60	101.2	98.1	102.0		
1986	2.28	94.0	15.63	106.1	26.48	107.4	107.0	.442	100.3	.850	96.0	236.37	98.2	98.0	101.1		
1987	2.42	100.0	14.80	100.0	24.65	100.0	100.0	.441	100.0	.885	100.0	240.81	100.0	100.0	100.0		
1988	2.72	112.2	14.33	97.3	24.91	101.1	99.8	.494	112.1	.924	104.4	274.12	113.8	111.0	106.6		
1989	2.40	99.0	15.17	103.0	24.08	97.7	99.4	.556	126.2	1.018	115.0	283.40	117.7	118.4	107.7		
1990	2.38	98.1	15.91	108.0	24.52	99.5	102.3	.529	120.0	1.010	114.1	286.18	118.8	117.8	108.5		
1991	2.32	95.5	16.58	112.5	25.52	103.6	106.5	.505	114.6	1.030	116.4	264.98	110.0	112.5	107.5		
1992	2.20	90.8	17.80	120.8	24.66	100.1	106.9	.520	117.9	.916	103.5	259.61	107.8	108.4	105.1		
1993	2.50	103.2	18.81	127.7	26.26	106.6	113.5	.467	106.0	.861	97.3	261.89	108.7	105.3	108.3		
1994	2.75	113.2	20.88	141.7	27.80	112.8	122.3	.515	116.8	.847	95.7	271.94	112.9	109.0	115.1		
1995	2.73	112.8	22.07	149.8	28.87	117.1	127.9	.542	122.9	.922	104.2	302.66	125.7	119.5	121.9		
1996:	2.92	120.6	19.64	133.3	27.50	111.6	118.7	.581	121.5	1.068	120.7	293.85	122.0	121.6	120.2		
1997:	2.85	117.6	23.75	161.2	23.39	119.2	133.0	.567	128.7	1.186	134.0	320.90	133.2	132.7	130.6		
1998:	3.01	124.3	23.65	160.5	25.00	101.4	120.8	.544	123.4	1.111	125.5	337.25	140.0	133.4	126.9		
1999:	2.93	120.9	23.49	159.5	32.28	130.9	140.3	.554	125.7	1.224	138.3	342.24	142.1	138.3	136.5		
2000:																	
First quarter	2.71	111.8	25.17	170.9	32.65	132.5	145.1	.590	133.9	1.079	121.9	364.40	151.3	140.6	138.1		
Second quarter	3.48	143.6	25.07	170.2	36.72	148.9	155.9	.662	150.2	1.432	161.9	396.92	164.8	161.5	156.6		
Third quarter	2.94	121.2	24.65	167.4	34.55	140.2	149.1	.371	84.2	1.343	151.7	335.58	139.3	133.2	137.9		
Fourth quarter	3.01	124.1	26.51	179.9	36.54	148.2	158.6	.589	133.6	1.427	161.3	362.70	150.6	150.5	149.9		
Annual	3.01	124.1	25.30	171.7	35.15	142.6	152.2	.549	124.6	1.351	152.6	363.66	151.0	146.9	145.6		
2001:																	
First quarter	3.91	161.3	29.93	203.2	35.31	143.2	162.9	.576	130.7	1.461	165.1	302.70	125.7	136.9	151.2		
Second quarter	3.29	135.8	21.42	145.4	34.42	139.6	141.5	.550	124.7	1.057	119.4	337.67	140.2	132.1	136.5		
Third quarter	2.50	103.2	27.60	187.4	35.57	144.3	158.4	.545	123.7	1.176	132.8	343.27	142.5	136.8	140.6		
Fourth quarter	3.27	135.1	29.09	197.5	35.87	145.5	162.6	.726	164.6	1.166	131.8	392.65	163.0	155.1	155.1		
Annual	3.05	125.9	28.21	191.5	34.93	141.7	158.1	.601	136.4	1.201	135.8	339.44	140.9	138.8	144.8		
2002:																	
First quarter	3.05	125.7	24.26	164.7	31.00	125.8	138.5	.618	140.2	1.628	183.9	395.18	164.1	165.2	148.4		
Second quarter	2.94	121.3	32.31	219.3	35.52	144.1	168.8	.631	143.2	1.427	161.2	393.88	163.6	159.5	157.5		
Third quarter	3.05	125.6	23.66	160.6	36.16	146.7	151.3	.583	132.3	1.433	161.9	377.90	156.9	154.0	148.6		
Fourth quarter	2.67	109.9	28.31	192.2	33.33	135.2	153.9	.620	140.8	.972	109.8	336.13	139.6	131.9	137.6		
Annual	2.94	121.2	25.86	175.5	34.14	138.5	150.7	.610	138.4	1.436	162.2	374.96	155.7	154.5	147.9		
2003:																	
First quarter	5.15	212.2	23.55	159.8	32.35	131.3	140.6	0.647	146.7	1.177	133.0	441.81	183.5	163.8	161.6		
Second quarter	3.23	133.1	24.33	165.1	33.86	137.4	146.5	.833	188.9	1.272	143.7	425.42	176.6	170.0	154.8		
Third quarter	4.09	168.6	29.07	197.3	31.92	129.5	151.8	.631	143.1	1.102	124.6	374.83	155.6	145.3	151.4		
Fourth quarter	2.67	110.0	21.14	143.5	31.57	128.1	133.1	.667	151.3	1.241	140.2	383.96	159.4	152.9	138.4		
Annual	3.45	142.3	23.95	162.6	32.54	132.0	142.1	.718	162.9	1.219	137.8	406.02	168.6	159.5	149.8		

PRICE TRENDS FOR FEDERAL-AID HIGHWAY CONSTRUCTION
1967 Base

Year	Common Excavation		Surfacing					Structure							Composite Index
			Portland cement concrete		Bituminous concrete		Surfacing Index	Reinforcing Steel		Structural steel		Structural concrete		Structures index	
	Average contract price (cu. yd)	Index	Average contract price (sq. yd)	Index	Average contract price (ton)	Index		Average contract price (lb.)	Index	Average contract porice (lb.)	Index	Average contract price (cu.yd)	Index		
1950	\$0.32	59.1	\$3.62	79.9	\$5.89	91.8	85.9	\$0.009	75.9	\$0.129	52.3	\$42.02	60.7	60.2	66.6
1951	0.40	75.1	3.92	86.5	7.33	114.2	100.5	0.119	91.6	0.176	71.5	50.72	72.2	74.8	81.8
1952	0.43	79.9	4.19	92.5	6.98	108.8	100.7	0.119	92.0	0.178	72.3	52.24	74.4	76.3	84.1
1953	0.40	75.1	4.07	89.8	6.53	101.8	95.9	0.121	93.4	0.172	70.1	52.82	75.2	76.2	81.0
1954	0.38	71.4	3.98	87.9	5.97	93.0	90.5	0.112	86.3	0.159	64.5	50.15	71.4	71.3	76.4
1955	0.35	65.6	3.96	87.4	6.07	94.6	91.0	0.110	84.8	0.157	64.0	50.01	71.2	70.8	74.3
1956	0.40	74.9	4.26	94.0	6.58	102.6	98.3	0.127	97.5	0.212	86.1	53.74	76.5	82.7	84.0
1957	0.42	78.6	4.34	95.8	6.75	105.2	100.6	0.134	103.5	0.228	92.6	55.98	79.7	87.4	87.7
1958	0.43	80.3	4.41	97.4	6.67	104.0	100.7	0.129	99.5	0.186	75.7	54.10	77.0	79.9	85.6
1959	0.40	74.7	4.40	97.1	6.58	102.6	99.9	0.126	96.8	0.169	68.6	53.00	75.4	76.4	82.0
1960	0.39	73.2	4.33	95.6	6.37	99.3	97.5	0.119	91.7	0.167	67.7	51.72	73.6	74.3	80.1
1961	0.41	75.5	4.20	92.7	6.35	98.9	95.9	0.115	88.5	0.165	67.1	53.38	76.0	74.9	80.7
1962	0.45	82.9	4.28	94.4	6.28	97.9	96.2	0.113	86.7	0.166	67.7	54.62	77.7	75.8	83.8
1962	0.45	82.6	4.17	94.2	6.32	95.9	97.2	0.113	86.2	0.167	67.6	53.88	76.6	75.6	84.3
1963	0.45	82.6	4.24	95.7	6.48	100.1	97.9	0.114	87.1	0.182	73.8	57.31	81.5	80.2	80.4
1964	0.46	84.8	4.16	93.9	6.26	96.8	95.3	0.112	85.7	0.193	78.1	57.71	82.1	81.5	86.9
1965	0.47	87.4	4.34	97.9	6.5	100.5	99.2	0.124	94.5	0.200	81.1	50.63	84.8	85.4	90.3
1966	0.52	96.5	4.50	101.7	6.44	99.6	100.7	0.127	97.2	0.224	90.7	63.22	89.9	91.4	96.1
1967	0.54	100.0	4.43	100.0	6.47	100.0	100.0	0.131	100.0	0.247	100.0	70.30	100.0	100.0	100.0
1968	0.58	102.6	4.79	108.1	6.77	104.7	106.4	0.131	100.5	0.249	100.8	71.81	102.1	101.5	103.4
1969	0.59	108.5	4.87	110.1	7.01	108.4	109.3	0.143	109.6	0.316	128.1	81.34	115.7	118.3	111.8
1970															
1st Qtr	0.63	115.7	4.83	100.0	7.51	116.1	112.4	0.150	114.9	0.295	119.5	86.77	123.4	120.8	116.4
2nd Qtr	0.63	116.3	5.44	122.8	7.89	122.1	122.4	0.162	123.5	0.323	130.7	87.83	124.9	126.4	121.3
3rd Qtr	0.70	128.8	5.98	135.1	8.52	131.7	133.4	0.171	130.4	0.350	142.0	100.82	143.4	140.8	134.0
4th Qtr	0.68	126.4	5.59	126.2	8.16	126.2	126.2	0.172	131.2	0.369	149.7	94.73	134.8	138.5	130.2
Avg	0.66	121.8	5.42	122.4	8.04	124.3	123.3	0.163	124.9	0.338	137.0	92.73	131.9	132.2	125.6
1971															
1st Qtr	0.64	117.9	5.5	124.3	8.24	127.5	125.8	0.172	131.5	0.332	134.6	89.05	126.7	120.0	124.1
2nd Qtr	0.72	132.5	5.62	126	8.62	133.3	130	0.180	137.5	0.367	148.6	92.46	131.5	137.6	133.4
3rd Qtr	0.66	122	6.91	156.1	8.92	137.9	147.3	0.177	135.0	0.339	137.3	101.98	145.1	141.0	135.5
4th Qtr	0.67	124	6.31	142.5	8.24	127.5	135.2	0.179	136.5	0.360	145.8	101.38	144.2	143.3	133.5
Avg	0.67	123.8	6.06	136.8	8.54	132.1	134.5	0.177	135.3	0.348	141.2	97.02	138.0	138.5	131.7

PRICE TRENDS FOR FEDERAL-AID HIGHWAY CONSTRUCTION

Year	Common Excavation		Surfacing					Structure								Composite Index
			Portland cement concrete		Bituminous concrete		Surfacing Index	Reinforcing Steel		Structural steel		Structural concrete		Structures index		
	Average contract price (cu. yd)	Index	Average contract price (sq. yd)	Index	Average contract price (ton)	Index		Average contract price (lb.)	Index	Average contract porice (lb.)	Index	Average contract price (cu.yd)	Index			
1972																
1st Qtr	.72	132.4	6.07	137.2	8.53	132.0	134.7	.185	141.3	.358	145.0	96.16	136.5	140.0	135.5	
2nd Qtr	.69	127.5	6.47	146.2	9.05	140.0	143.2	.176	134.8	.310	125.7	95.26	135.5	132.5	133.7	
3rd Qtr	.73	135.0	6.47	146.2	9.5	147.0	146.6	.177	135.3	.348	141.1	103.9	147.8	143.6	141.2	
4th Qtr	.76	140.0	5.93	133.8	10.51	162.6	147.7	.185	141.6	.347	140.5	106.75	151.9	146.7	144.4	
Avg	.72	133.4	6.25	141.2	9.22	142.6	141.9	.181	138.2	.342	138.6	100.17	142.5	140.6	138.2	
PREVIOUS QUARTER BASE-Index for each quarter as compared with 100.0 for each preceding quarter																
1971																
1st Qtr		93.3		98.4		101.0	99.7		100.2		90.0		94.0	93.7	95.3	
2nd Qtr		112.4		102.1		104.6	103.3		104.5		110.4		103.8	106.0	107.6	
3rd Qtr		92.1		123		103.5	113.3		98.2		92.4		110.3	102.5	101.6	
4th Qtr		101.7		91.3		92.4	91.8		101.1		106.2		99.4	101.6	98.5	
1972																
1st Qtr		106.8		96.2		103.6	99.6		103.5		99.5		94.9	97.7	101.5	
2nd Qtr		96.3		106.6		106.1	106.4		95.4		86.7		99.1	94.6	98.7	
3rd Qtr		105.8		100.0		105.0	102.3		100.4		112.2		109.1	108.4	105.5	
4th Qtr		103.7		91.5		110.6	100.8		104.6		99.6		102.7	102.1	102.3	
THREE-QUARTER MOVING AVERAGE																
1970																
1st Qtr	.61	112.2	5.22	117.8	7.67	118.6	118.2	.157	119.9	.316	127.9	87.86	125.0	125.0	118.0	
2nd Qtr	.65	120.5	5.37	121.3	8	123.8	122.5	.161	123.2	.326	132.2	92.18	131.1	130.1	124.1	
3rd Qtr	.67	123.8	5.67	127.9	8.19	126.6	127.3	.168	128.3	.347	140.9	94.59	134.6	135.3	128.5	
4th Qtr	.68	125.1	5.71	128.9	8.32	128.7	128.8	.171	130.9	.354	143.6	96.07	136.7	137.7	130.2	
1971																
1st Qtr	.68	125.9	5.57	125.8	8.36	129.3	127.5	.174	133.3	.359	145.3	92.42	131.5	135.9	129.6	
2nd Qtr	.67	123.8	5.99	135.2	8.03	133.5	134.4	.176	134.8	.343	139.1	95.34	135.6	136.5	131.0	
3rd Qtr	.68	125.3	6.24	140.0	8.62	133.4	137.2	.178	136.3	.354	143.3	98.96	140.8	140.8	133.8	
4th Qtr	.68	125.8	6.44	145.4	8.59	132.9	139.3	.180	137.7	.352	142.8	99.82	142.0	141.5	134.8	
1972																
1st Qtr	.69	128.0	6.28	141.9	8.61	133.1	137.6	.180	137.8	.345	139.7	97.69	139.0	139.0	134.3	
2nd Qtr	.71	131.9	6.34	143.3	8.08	138.9	141.2	.180	137.4	.341	138.1	98.47	140.1	139.0	136.9	
3rd Qtr	.72	133.8	6.31	142.6	9.57	148.1	145.2	.179	137.0	.336	136.4	101.80	144.8	141.0	139.5	
4th Qtr																

Base for composite index, 1967 involves 1,656,655,000 cubic yards of roadway excavation, 79,042,000 square yards of portland cement concrete surfacing with an average thickness of 0.7 inches, 51,230,000 tons of bituminous concrete surfacing 081,587,000 pounds of reinforcing steel for structures, 885,235,000 pounds of structural steel and 5,572,000 cubic yards of structural concrete.

Index figures for 1950 through 1962 are simple mathematical conversions from the 1957-60 base to the 1967 base. They were derived from previously computed figures, using 1957-59 base quantities and prices, dividing the figures for each year by the figures for the year 1967, and multiplying by 100. Revisions for 1962 and figures subsequent there to are computed from 1967 base quantities and prices.

Prices for portland cement concrete surfacing reflect adjustments to base period thickness in each State and do not include costs for reinforcing steel and joints.

Consumer Price Index - All Cities National Average				
U.S. Department of Labor Bureau of Labor Statistics				
1913 to 12-31-03				
1912 to 1830 based on growth trend calculation				
		CPI		deflator
2003		184.00		1.000
2002		179.90		0.978
2001		177.10		0.963
2000		172.20		0.936
1999		166.60		0.905
1998		163.00		0.886
1997		160.50		0.872
1996		156.90		0.853
1995		152.40		0.828
1994		148.20		0.805
1993		144.50		0.785
1992		140.30		0.763
1991		136.20		0.740
1990		130.70		0.710
1989		124.00		0.674
1988		118.30		0.643
1987		113.60		0.617
1986		109.60		0.596
1985		107.60		0.585
1984		103.90		0.565
1983		99.60		0.541
1982		96.50		0.524
1981		90.90		0.494
1980		82.40		0.448
1979		72.60		0.395
1978		65.20		0.354
1977		60.60		0.329
1976		56.90		0.309
1975		53.80		0.292
1974		49.30		0.268
1973		44.40		0.241
1972		41.80		0.227
1971		40.50		0.220
1970		38.80		0.211
1969		37.70		0.205

1968		34.80		0.189
1967		33.40		0.182
1966		32.40		0.176
1965		31.50		0.171
1964		31.00		0.168
1963		30.60		0.166
1962		30.20		0.164
1961		29.90		0.163
1960		29.60		0.161
1959		29.10		0.158
1958		28.90		0.157
1957		28.10		0.153
1956		27.20		0.148
1955		26.80		0.146
1954		26.90		0.146
1953		26.70		0.145
1952		26.50		0.144
1951		26.00		0.141
1950		24.10		0.131
1949		23.80		0.129
1948		24.10		0.131
1947		22.30		0.121
1946		19.50		0.106
1945		18.00		0.098
1944		17.60		0.096
1943		17.30		0.094
1942		16.30		0.089
1941		14.70		0.080
1940		14.00		0.076
1939		13.90		0.076
1938		14.10		0.077
1937		14.40		0.078
1936		13.90		0.076
1935		13.70		0.074
1934		13.40		0.073
1933		13.00		0.071
1932		13.70		0.074
1931		15.20		0.083
1930		16.70		0.091
1929		17.10		0.093
1928		17.10		0.093
1927		17.40		0.095
1926		17.70		0.096

1925		17.50		0.095
1924		17.10		0.093
1923		17.10		0.093
1922		16.80		0.091
1921		17.90		0.097
1920		20.00		0.109
1919		17.30		0.094
1918		15.10		0.082
1917		12.80		0.070
1916		10.90		0.059
1915		10.10		0.055
1914		10.00		0.054
1913		9.90		0.054
1912		8.11		0.044
1911		7.85		0.043
1910		7.60		0.041
1909		7.36		0.040
1908		7.12		0.039
1907		6.89		0.037
1906		6.67		0.036
1905		6.46		0.035
1904		6.26		0.034
1903		6.06		0.033
1902		5.86		0.032
1901		5.68		0.031
1900		5.50		0.030
1899		5.32		0.029
1898		5.15		0.028
1897		4.99		0.027
1896		4.83		0.026
1895		4.67		0.025
1894		4.53		0.025
1893		4.38		0.024
1892		4.24		0.023
1891		4.11		0.022
1890		3.98		0.022
1889		3.85		0.021
1888		3.73		0.020
1887		3.61		0.020
1886		3.49		0.019
1885		3.38		0.018
1884		3.27		0.018
1883		3.17		0.017

1882		3.07		0.017
1881		2.97		0.016
1880		2.88		0.016
1879		2.78		0.015
1878		2.70		0.015
1877		2.61		0.014
1876		2.53		0.014
1875		2.45		0.013
1874		2.37		0.013
1873		2.29		0.012
1872		2.22		0.012
1871		2.15		0.012
1870		2.08		0.011
1869		2.01		0.011
1868		1.95		0.011
1867		1.89		0.010
1866		1.83		0.010
1865		1.77		0.010
1864		1.71		0.009
1863		1.66		0.009
1862		1.61		0.009
1861		1.55		0.008
1860		1.50		0.008
1859		1.46		0.008
1858		1.41		0.008
1857		1.37		0.007
1856		1.32		0.007
1855		1.28		0.007
1854		1.24		0.007
1853		1.20		0.007
1852		1.16		0.006
1851		1.12		0.006
1850		1.09		0.006
1849		1.05		0.006
1848		1.02		0.006
1847		0.99		0.005
1846		0.96		0.005
1845		0.93		0.005
1844		0.90		0.005
1843		0.87		0.005
1842		0.84		0.005
1841		0.81		0.004
1840		0.79		0.004

1839		0.76		0.004
1838		0.74		0.004
1837		0.71		0.004
1836		0.69		0.004
1835		0.67		0.004
1834		0.65		0.004
1833		0.63		0.003
1832		0.61		0.003
1831		0.59		0.003
1830		0.57		0.003



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Consumer Price Index-All Urban Consumers

Series Catalog:

Series ID : CUUR0000SA0

Not Seasonally Adjusted

Area : U.S. city average

Item : All items

Base Period : 1982-84=100

Data:

[illegible]

[illegible]

1969	35.6	35.8	36.1	36.3	36.4	36.6	36.8	37.0	37.1	37.3	37.5	37.7	36.7
1970	37.8	38.0	38.2	38.5	38.6	38.8	39.0	39.0	39.2	39.4	39.6	39.8	38.8
1971	39.8	39.9	40.0	40.1	40.3	40.6	40.7	40.8	40.8	40.9	40.9	41.1	40.5
1972	41.1	41.3	41.4	41.5	41.6	41.7	41.9	42.0	42.1	42.3	42.4	42.5	41.8
1973	42.6	42.9	43.3	43.6	43.9	44.2	44.3	45.1	45.2	45.6	45.9	46.2	44.4
1974	46.6	47.2	47.8	48.0	48.6	49.0	49.4	50.0	50.6	51.1	51.5	51.9	49.3
1975	52.1	52.5	52.7	52.9	53.2	53.6	54.2	54.3	54.6	54.9	55.3	55.5	53.8
1976	55.6	55.8	55.9	56.1	56.5	56.8	57.1	57.4	57.6	57.9	58.0	58.2	56.9
1977	58.5	59.1	59.5	60.0	60.3	60.7	61.0	61.2	61.4	61.6	61.9	62.1	60.6
1978	62.5	62.9	63.4	63.9	64.5	65.2	65.7	66.0	66.5	67.1	67.4	67.7	65.2
1979	68.3	69.1	69.8	70.6	71.5	72.3	73.1	73.8	74.6	75.2	75.9	76.7	72.6
1980	77.8	78.9	80.1	81.0	81.8	82.7	82.7	83.3	84.0	84.8	85.5	86.3	82.4
1981	87.0	87.9	88.5	89.1	89.8	90.6	91.6	92.3	93.2	93.4	93.7	94.0	90.9
1982	94.3	94.6	94.5	94.9	95.8	97.0	97.5	97.7	97.9	98.2	98.0	97.6	96.5
1983	97.8	97.9	97.9	98.6	99.2	99.5	99.9	100.2	100.7	101.0	101.2	101.3	99.6
1984	101.9	102.4	102.6	103.1	103.4	103.7	104.1	104.5	105.0	105.3	105.3	105.3	103.9
1985	105.5	106.0	106.4	106.9	107.3	107.6	107.8	108.0	108.3	108.7	109.0	109.3	107.6
1986	109.6	109.3	108.8	108.6	108.9	109.5	109.5	109.7	110.2	110.3	110.4	110.5	109.6
1987	111.2	111.6	112.1	112.7	113.1	113.5	113.8	114.4	115.0	115.3	115.4	115.4	113.6
1988	115.7	116.0	116.5	117.1	117.5	118.0	118.5	119.0	119.8	120.2	120.3	120.5	118.3
1989	121.1	121.6	122.3	123.1	123.8	124.1	124.4	124.6	125.0	125.6	125.9	126.1	124.0
1990	127.4	128.0	128.7	128.9	129.2	129.9	130.4	131.6	132.7	133.5	133.8	133.8	130.7
1991	134.6	134.8	135.0	135.2	135.6	136.0	136.2	136.6	137.2	137.4	137.8	137.9	136.2
1992	138.1	138.6	139.3	139.5	139.7	140.2	140.5	140.9	141.3	141.8	142.0	141.9	140.3
1993	142.6	143.1	143.6	144.0	144.2	144.4	144.4	144.8	145.1	145.7	145.8	145.8	144.5
1994	146.2	146.7	147.2	147.4	147.5	148.0	148.4	149.0	149.4	149.5	149.7	149.7	148.2
1995	150.3	150.9	151.4	151.9	152.2	152.5	152.5	152.9	153.2	153.7	153.6	153.5	152.4
1996	154.4	154.9	155.7	156.3	156.6	156.7	157.0	157.3	157.8	158.3	158.6	158.6	156.9
1997	159.1	159.6	160.0	160.2	160.1	160.3	160.5	160.8	161.2	161.6	161.5	161.3	160.5
1998	161.6	161.9	162.2	162.5	162.8	163.0	163.2	163.4	163.6	164.0	164.0	163.9	163.0
1999	164.3	164.5	165.0	166.2	166.2	166.2	166.7	167.1	167.9	168.2	168.3	168.3	166.6
2000	168.8	169.8	171.2	171.3	171.5	172.4	172.8	172.8	173.7	174.0	174.1	174.0	172.2
2001	175.1	175.8	176.2	176.9	177.7	178.0	177.5	177.5	178.3	177.7	177.4	176.7	177.1
2002	177.1	177.8	178.8	179.8	179.8	179.9	180.1	180.7	181.0	181.3	181.3	180.9	179.9
2003	181.7	183.1	184.2	183.8	183.5	183.7	183.9	184.6	185.2	185.0	184.5	184.3	184.0

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Appendix VI

GOVERNMENTAL ACCOUNTING FOCUS

Infrastructure reporting¹

For states and larger local governments, July 1, 2001, marked the beginning of the first fiscal year for which financial statements will have to be prepared in accordance with the new governmental financial reporting model established by the Governmental Accounting Standards Board (GASB) in Statement No. 34, *Basic Financial Statements and Management's Discussion and Analysis for State and Local Governments*. One of the principal challenges facing financial statement preparers attempting to implement the new model is gathering the information needed to comply with the infrastructure reporting provisions of GASB Statement No. 34. This article will briefly review those provisions as well as explore the types of information that are available to financial statement preparers as they attempt to meet this challenge.

Background. GASB Statement No. 34 defines infrastructure assets as follows:

Infrastructure assets are long-lived capital assets
That normally are stationary in nature

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and normally can be preserved for a significantly greater number of years than most capital assets. Examples of infrastructure assets include roads, bridges, tunnels, drainage systems, water and sewer systems, dams, and lighting systems. Buildings, except those that are an ancillary part of a network of infrastructure assets, should not be considered infrastructure assets for purposes of this Statement.

Infrastructure assets have always been reported and depreciated in proprietary funds (e.g., the underground piping of water and sewer authorities presented as enterprise funds). The reporting of general government *infrastructure assets*, however, has remained purely optional under the traditional governmental financial reporting model and is rarely encountered in practice.

GASB Statement No. 34 will require for the first time that state and local governments capitalize general government infrastructure assets in their basic financial statements. GASB Statement No. 34 also establishes the general principle that *infrastructure assets* should be depreciated.

Prospective reporting. GASB Statement No. 34 calls for the universal *prospective* reporting of *infrastructure assets*. That is, governments will be required to capitalize all of their general government *infrastructure assets* constructed or acquired subsequent to the implementation of the new financial reporting model, as well as the cost of any major improvements incurred from that time forward. Furthermore, accumulated construction costs related to general government infrastructure assets under construction at the time of transition will need to be capitalized as *construction in progress*.

Retroactive reporting. In addition to prospective infrastructure report, GASB Statement No. 34 calls for the retroactive reporting of existing *infrastructure assets*. However, this general requirement for retroactive infrastructure reporting is modified in several important ways:

- Mandatory *retroactive infrastructure* reporting

¹ GAAFR Review wishes to thank Mr. Michael Nielsen of Government Fixed Asset Services, Inc., Chicago, Illinois, for providing much of the information used to prepare this article. Mr. Nielsen is an advisor to the Government Finance Officers Association's (GFOA) Committee on Accounting, Auditing, and Financial Reporting. He also is an Instructor of long standing for GFOA's *Capital Asset Accounting and Reporting* national training seminar.

is subject to a cutoff date. Many existing infrastructure assets were constructed or acquired many decades prior to the implementation of the new governmental financial reporting model. The age of such assets could pose special problems to financial statement preparers attempting to obtain the information needed to capitalize related costs. Therefore, to ease the burden on financial statement preparers, GASB Statement No. 34 limits mandatory infrastructure reporting to infrastructure assets acquired, constructed, significantly reconstructed, or significantly improved during fiscal years that ended after June 30, 1980. GASB encourages, but does not require, the reporting of *infrastructure assets* obtained prior to the cutoff date.

- *Mandatory retroactive infrastructure reporting is limited to major networks and subsystems.* As already noted, prospective infrastructure reporting will be required for all infrastructure assets. In contrast, GASB Statement No. 34 limits mandatory retroactive reporting to major networks and subsystems of infrastructure assets. GASB Statement No. 34 defines a *network of infrastructure assets* as “all assets that provide a particular type of service for a government” (note 14). A network of infrastructure assets is considered to be major if its costs are expected to be at least 10 percent of the total cost of all general government capital assets reported in the first fiscal year ending after June 15, 1999. A *subsystem* of a network of infrastructure assets is defined as “all assets that make up a similar portion or segment of a network of assets” (note 15). A subsystem of a network of infrastructure assets is considered to be major if its cost is expected to be at least 5 percent of the total cost of all general government capital assets reported in the first fiscal year ending after June 15, 1999.

- *Small governments are exempt from mandatory retroactive infrastructure reporting.* Governments with under \$10 million in revenues for their first fiscal year ended on or after June 30, 1999, are entirely exempt from the requirement to retroactively report existing infrastructure assets. Nevertheless, GASB encourages the voluntary retroactive reporting of infrastructure assets by such governments.

Depreciation accounting. As noted earlier, governments normally will have to depreciate their general government infrastructure assets under the new governmental financial reporting model. Furthermore, since GASB Statement No. 34 mandates that infrastructure assets be reported net of accumulated depreciation, financial statement preparers will need to calculate the balance of *accumulated depreciation* in connection with their initial capitalization of any infrastructure assets that are to be reported retroactively.

There is one important exception to the general rule requiring that governments depreciate their infrastructure assets. Specifically, governments have the *option* of avoiding depreciation accounting altogether on networks or subsystems of infrastructure assets that meet two conditions. First, the government must have made a commitment to maintain a given network or subsystem of infrastructure assets at a target condition level set by the government itself and the fact that it actually is doing so must be supported by the evidence of periodic condition assessments. Second, the government must have established an asset management system that is adequate for this purpose. Governments that meet both of these conditions and avail themselves of this option are said to be using the modified approach to infrastructure reporting. This modified approach is available for all qualifying networks or subsystems of infrastructure assets, including those reported in proprietary funds.

Any change from the modified approach to depreciation accounting or vice versa must be made *prospectively*. Assume, for example, that a government has been using depreciation accounting for a network of underground piping reported in a utility enterprise fund, but now wishes to convert to the modified approach, as permitted by GASB Statement No. 34. In that case, the net book value of the underground piping at the time the government adopted the modified approach (i.e., (estimated) historical cost/fair value at date of donation less accumulated depreciation to the time of transition) would be the basis at which the underground piping would subsequently be reported.

Conversely, a government that used the modified approach and later decided to convert to depreciation accounting for a given network or subsystem of infrastructure assets would be required to depreciate the entire (estimated) historical cost/fair value at date of donation of that asset over the anticipated remaining useful life of the network or subsystem. Assume, for example that a government constructs a network of infrastructure assets at a cost of \$40 million and initially elects to use the modified approach to account for that network. In that case, the useful life of the network would be presumed to be indefinite or infinite and no depreciation expense would be recorded. Now further assume that the government elected to abandon the modified approach 20 years later in favor of depreciation

accounting and that the estimated remaining useful life of the network at that time was 20 years (i.e., total useful life of 40 years from the time of construction). In that case, the full \$40 million cost of the network would have to be depreciated over the remaining 20 year useful life of the network (i.e., \$40 million/20 years = \$2 million/year depreciation expense). That is annual depreciation expense for the network following the change would be twice what it otherwise would have been had the government never used the modified approach (i.e., \$40 million/40 years = \$1 million/year depreciation expense).

The Executive Board of the Government Finance Officers Association (GFOA) has taken a formal position discouraging governments from using the modified approach to report their infrastructure assets. This position is purely advisory, however, and a government's election to use the modified approach would have no adverse effect on its participation in GFOA's Certificate of Achievement for Excellence in Financial Reporting Program.

Basic Information needed for compliance. If financial statement preparers are to record their general government infrastructure assets and then depreciate them, they must be able to answer each of the following questions:

- What infrastructure assets does the government have?
- When did the government acquire its infrastructure assets?
- How much did the government's infrastructure assets cost at the time they were acquired or constructed? (Or, what was the fair value of donated infrastructure assets at the date of donation?)
- What is the anticipated useful life of the government's infrastructure assets?

What infrastructure does the government have? As financial statement preparers have frequently and forcefully noted, accounting departments typically do not maintain inventories of their general government infrastructure assets. That is not to say, however, that this information is not maintained elsewhere within the government for purposes other than financial reporting. Indeed, experience seems to indicate that needed inventory data often are readily available to financial statement preparers who know where to look.

- **Roads.** The essential elements needed for an inventory of a government's roads are almost always available from the department responsible for their maintenance (e.g., Department of Transportation, Engineering Department, Department of Public Works).

- **Bridges.** Safety and inspection rules make it all but certain that the information needed for an inventory of bridges will be maintained by the department responsible for their maintenance.
- **Storm drainage.** Information on infrastructure related to storm drainage typically is available from the department responsible for its maintenance (e.g., Engineering Department, Department of Public Works, Water and Sewer Utility).
- **Water and sewer.** Most governments account for their water and sewer operations in an enterprise fund, which means that they should already be reporting and depreciating their infrastructure assets related to water and sewer operations.
- **Tunnels.** Because tunnels are relatively uncommon, they normally are easy to identify and inventory with the help of the Department of Engineering, the Department of Public Works, or their equivalent.
- **Dams.** As with tunnels, the essential elements for an inventory should be readily available from the Department of Engineering, the Department of Public Works, the Department of Natural Resources, or their equivalent.
- **Street lighting.** Because of the high maintenance demands of street lighting systems, the data needed for an inventory of street lighting should be readily available from the Department of Public Works, the Department of Engineering, the Department of Transportation, the Bureau of Electricity, or their equivalent.

It must be remembered that the land underlying infrastructure (e.g., right of way) is not itself considered to be infrastructure, but should instead be reported in the land account. In practice, governments often have failed to record the land underlying their infrastructure assets and will need to rectify this omission as part of their effort to implement GASB Statement No. 34. Because the land underlying infrastructure is not infrastructure, it must be reported regardless of the date of acquisition (i.e., no small government exemption). It may be useful to note that GASB tentatively plans in a forthcoming second implementation *Guide to GASB Statement No. 34* to indicate that it may be both necessary and economically feasible to undertake the effort that

appropriate to report donated right-of-way at some nominal value.

When did the government acquire its infrastructure assets? Governments need to know when they acquired their infrastructure assets for two reasons. First, such information is essential to determining the amount to be reported as accumulated depreciation at the time of transition to the new reporting model. Second, governments that do not have the information needed to establish the actual historical cost of their general government infrastructure assets will need to use estimation techniques in which the date of acquisition plays a critical role.

Most governments' infrastructure records do not contain the information needed to establish the actual age of their infrastructure assets. Therefore, governments will need, in many cases, to estimate when they first acquired or constructed those assets. The process of estimating when capital assets were first acquired is commonly referred to as *aging*.

Governments may wish to rely upon the judgment of experience personnel to estimate when various subsystems of infrastructure were probably acquired or constructed. For example, the city engineer might be reasonably confident that infrastructure serving certain areas of the city was constructed sometime in the late 1960's. Another approach would be to presume that infrastructure growth roughly paralleled population growth. Still another approach might be to attempt to establish a defensible correlation between the age of infrastructure and required levels of maintenance.

In the case of state governments, important information is available on expenditures for road construction that occurred between 1914 and 1964. This information can be found in *The First Fifty Years*, a publication of the American Association of State Highway and Transportation Officials.

How much did the government's infrastructure assets cost? As described earlier, much of the information needed to create inventories of infrastructure assets already exists in various departments of the government. Such data, however, almost never include the historical cost of infrastructure assets (or information on the fair value of donated assets at the date of donation). Consequently, governments are faced with a choice: they can either research the actual historical cost of their infrastructure assets based upon invoices, progress billings, and similar documentation (a process known as *direct costing*) or they can estimate the historical cost of those assets.

In many cases, it is not possible to apply direct costing because the necessary documentation has not been retained by the government. In other cases, it may not be

would be necessary to marshal the needed documentation. In either case, one of two methods can be used to estimate the historical cost of existing infrastructure assets if direct costing is not used.

- *Standard costing.* A government can use historical sources (e.g., vendor catalogues or information available from other governments) to determine the average cost of obtaining the same or a similar capital asset at the time the government made its own acquisition (i.e., "What were other governments paying for the same type of infrastructure asset at the time our government acquired it"?).
- *Normal costing.* A government also can estimate the historical cost of an existing infrastructure asset by taking the estimated current cost of the asset and applying a price level index to approximate its cost at the date of acquisition (i.e., "If the asset would cost this much today to replace new, how much would it have cost when our government first acquired it?"). This method is commonly referred to as *backtrending*.

Experience to date suggests that most governments will use normal costing to estimate the historical cost (or estimated fair value at the date of donation of their general government infrastructure assets. Accordingly, governments will need to apply appropriate price indexes. Fortunately much of the information needed for this purpose is readily available on the Internet.

Access to price indexes. Ideally, a price index should be as specific as possible to the type of asset being valued. Specific price indices may not be available, however, for some types of infrastructure assets, or the information provided by those indexes may not cover the entire period during which infrastructure assets were acquired or constructed. The Consumer Price Index (CPI) can serve as a practical substitute for such missing information. The CPI provides indexes for both the United States as a whole and for each of the four census regions. Information also is presented for cities by size, for cities by size and region, and for 26 specific local areas. The indexes for "all urban consumers" cover approximately 87 percent of the total U.S. population. The CPI can be found at <http://stats.bls.gov/cpi/home.htm>.

It is important to emphasize that the CPI

Exhibit 1
Estimated Useful Lives – State of Texas

Curbs and gutters	20 years
Bridge – concrete girder (pan)	35 years
Bridge – concrete slab	20 years
Bridge – culvert	35 years
Bridge – prestressed girder (box)	30 years
Bridge – prestressed girder	25 years
Bridge – steel girder	25 years
Bridge – steel truss	45 years
Bridge – timber stringer	25 years
Sewer – sanitary, storm	20 years
Railroad	10 years
Canal	20 years
Waterway	20 years
Drainage facility	20 years
Wharf or dock	20 years
Radio or television transmitting tower	20 years
Dam	50 years
Electric – lines and distribution	20 years
Gas – main and lines	25 years
Water lines	25 years
Fiber optic	20 years
Telephone distribution systems	10 years
Tunnels	45 years
Sea walls/bulkheads/piers/boardwalks	35 years
Fire hydrants	25 years
Agricultural Irrigations systems	35 years
Sidewalks	16 years

specifically does not take into account construction-related costs. Accordingly, another general price index alternative that financial statement preparers might wish to consider is the Producer Price Index (PPI), which can be found at <http://www.bls.gov/ppi/>. The PPI is actually a family of indexes that measures the average change over time in selling prices from the perspective of the seller. There are three main PPI publication structures: 1) industry-based, 2) commodity-based, and 3) state-of-processing based. Other publication structures include producer price indexes by durability of product, special commodity groupings (e.g., construction materials), and industry-based state-of-processing indexes.

The U.S. Census Bureau provides indexes (starting from 1964) for the *Value of Construction Put in Place* at <http://www.census.gov/prod/2000pubs/c30-0005.pdf>. Additional information can be found at the Census Bureau's Web site <http://www.census.gov/prod/www/abs/c30.html>.

The Federal Highway Administration (FHWA) provides information on *Price Trends for Federal-aid-Highway Construction*. In addition to a composite index, separate indices are available for excavation, surfacing (Portland cement concrete and bituminous concrete), and structures (reinforcing steel, structural steel, and structural concrete).

Information prior to 1972 is available upon request. For the past 10 years, information is available by state. Detailed information (i.e., items described in parentheses) is available only in hard-copy format. General information can be found at the FHWA web site <http://www.fhwa.dot.gov/ohim/hs98/tables/pt1.pdf>.

The Engineering News Record (ENR) offers indexes for construction starting from 1908. The ENR index is based upon the cost of common labor, standard structural steel shapes, Portland cement, and lumber. This information can be found at the ENR Web site at www.enr.com/cost/costcci.asp.

What is the anticipated useful life of infrastructure?

Depreciation is the systematic allocation of the cost of a capital asset over its anticipated useful life. Accordingly, one of the challenges of governments attempting to implement the new infrastructure reporting provisions of GASB Statement No. 34 is to estimate the useful lives of their various networks and subsystems of infrastructure assets. This estimation process is commonly referred to as *lifing*.

There are several resources that may be of help to governments seeking to estimate the useful lives of their infrastructure assets. The BEA provides *Rates of Depreciation, Service Lives, Declining-balance Rates, and Julten-Wyckoff Categories* (www.bea.doc.gov/bea/an/wlth2594/tableC.htm). Specifically, BEA sets 60 year estimated useful lives for state and local highways and streets, conservation and development infrastructure assets, sewer systems, and water systems. However, the U.S. Department of Commerce, Bureau of Economic Analysis, in an article on "Fixed Assets and Consumable Durable Goods" that appeared on page 4 in its April 2000 *Survey of Current Business* (<http://www.bea.doc.gov/bea/an/0400niw1/maintext.htm>), indicated the following change:

New service life for highways. On the basis of two recent studies of highway capital, the service life for highways and streets has been reduced from 60 years to 45 years.

The State of Texas provides much detailed guidance in its *State Property Accounting* (www.window.state.tx.us/comptrol/san/spa/realclasscodes.html). That information is summarized in Exhibit 1. It should be noted that the estimated

useful lives of infrastructure assets presented on this list appear to be aggressive.

The State of Oregon offers its own guidance on the lifing of Infrastructure assets in *Capital Asset List of Accounts-for GASB 34 Implementation*. The Oregon guidance provides broad ranges of estimated useful lives, as can be seen in Exhibit 2.

Exhibit 2
Estimated Useful Lives – State of Oregon

State highways	15 to 35 years
Other roads	10 to 30 years
Tunnels and bridges	10 to 50 years
Airports	10 to 40 years
Utility systems	10 to 50 years
Docks, dikes, and dams	10 to 50 years

The State of Louisiana offers guidance in *Capital Assets of Local Governments: Suggested useful Lives* (<http://www.lla.state.la.us/wwwaud/gasb34/sugguse.PDF>). The Louisiana guidance is summarized in Exhibit 3.

Exhibit 3
Estimated Useful Lives – State of Louisiana

Drainage systems	25 years
Water systems	25 years
Sewerage disposal works system	25 years
Canal lining	30 years
Dams – concrete	50 years
Dams – steel, sheetpile	50 years
Roads – paved	40 years
Roads – asphalt – rural	40 years
Roads – asphalt – urban	20 years
Roads – non-paved	50 years

Note: Unlined levees and canals and earthen embankments are not considered to be depreciable assets.

The State of New York offers guidance in *Asset Lifing per State of New York Local Finance Law*. Key elements of that guidance are summarized in Exhibit 4.

Finally, the Commonwealth of Massachusetts briefly addresses lifing for infrastructure assets in its *Implementation Guide for GASB 34* (www.state.ma.us/osc/Reports/GASB/contents.htm). #Capitalization of Fixed (Capital) Assets, Uniform Capitalization Policy, Infrastructure and Depreciation), which suggests a 50-year estimated useful life for roads and “other horizontal infrastructure.” It also recommends an

Estimated useful life of 25 years for piers.

GFOA’s recommended position on Infrastructure reporting. GFOA’s Executive Board took a formal position recommending that governments apply a least-cost implementation strategy to the capitalization and depreciation of their general government infrastructure assets. Specifically, GFOA:

- encourages governments to limit retroactive reporting to major classes of infrastructure assets;
- encourages governments to define major classes of infrastructure assets as narrowly as possible;
- encourages governments to limit their infrastructure reporting to assets acquired during fiscal years that ended after 6/30/80;
- emphasizes the benefits of using estimates whenever possible;
- emphasizes the use of composite approaches to the calculation of depreciation expense;
- advises its members to resist conversion and implementation proposals by vendors that unnecessarily raise fees by going beyond the strict requirements of GASB Statement No. 34; and
- provides opportunities for members to share cost-effective implementation strategies and tactics directly by means of a special dedicated bulletin board on the GFOA Web site.

For governments that may be contemplating the possibility of not reporting their general government infrastructure assets at all, it should be noted that the American Institute of Certified Public Accountants has directed its members who are auditors to issue an *adverse opinion* on financial statements that fail to report general government infrastructure assets.

States using the modified approach. The National Association of State Auditors, Comptrollers, and Treasurers (NASACT) surveyed the states to determine the degree to which state governments plan use the modified approach to account for one or more of their networks or subsystems of infrastructure assets. The positions of the 28 states responding to the survey were almost evenly divided.

The following 15 states indicated that they plan to use the modified approach (essentially for roads and bridges): Alabama, Alaska, Arizona, Colorado, Florida, Idaho, Indiana, Michigan, Minnesota, New York, Ohio, Tennessee, Texas, Washington, and Wisconsin.

The 13 states responding that they would *not* be using the modified approach for any of their networks or subsystems are as follows: Iowa, Louisiana, Nebraska, New Hampshire, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, South Carolina, Vermont, Virginia, and West Virginia.

Conclusion. Infrastructure reporting is one of the principal challenges facing governments as they prepare to implement GASB Statement No. 34. Fortunately, much information is available to help governments attempting to meet this challenge.

Exhibit 4 Estimated useful Lives – State of New York

Water systems*	40 years
River regulating reservoirs**	40 years
Water improvement and Drainage**	30 years
Sewer systems	40 years
Sewer system sealing	15 years
Electric light and power Systems**	30 years
Solid waste	25 years
Refuse disposal	20 years
Hazardous waste sites	20 years
Docks***	40 years
Rapid transit railroads and street railroads*	40 years
Railroad rolling stock	25 years
Bridges, tunnels, viaducts underpasses (over \$5 million)	40 years
Bridges, tunnels, viaducts, underpasses (under \$5 million)	20 years
Airport construction	10 years
Airport runways	30 years
Airport hangars	25 years
Highways, roads, streets, parkways, parking areas	10-35 years
Dikes, bulkheads	20-30 years
Curbs, sidewalks, gutters	10 years
Golf course	15 years
Boardwalks	10 years
Dredges	15 years
Swimming pools	15 years
Skiing developments	20 years
Fill (placement)	30 years
Traffic signals	10 years
Traffic signs	10 years
Pedestrian malls	20 years
Fuel tanks – underground	15 years

* 50 years for New York City

** Shorter periods apply to replacements

*** 50 years for construction prior to 1956